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AGRICULTURE

No. 78

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NATIONAL GRAIN PROCUREMENT GOAL FOR 1979 SURPASSED

Beijing RENMIN RIBAO in Chinese 26 Dec 79 p 1

[XINHUA Dispatch from Beijing, 25 December: "National Grain Procurement Task Fulfilled Above Quota"]

[Text] This year, China has scored a bumper harvest of grain. The national grain procurement task has been overfulfilled.

According to the statistics of the Ministry of Food, up to 20 December the stock of grain in storage reached 100,288 million jin, exceeding the annual plan by 2.04 percent and showing an increase of 10 billion jin over the same period last year.

Those areas which have fulfilled their tasks of state procurement include Shandong, Jiangsu, Zhejiang, Jiangxi, Anhui, Liaoning, Heilongjiang, Jilin, Henan, Hebei, Tianjin and Beijing. In addition, 10 more provinces, municipalities and autonomous regions have fulfilled over 90 percent of their tasks.

This year, since the summer grain went on the market, the government has raised the price for grain procurement by 20 percent and the price for procurement above quota by another 50 percent, thus greatly arousing the enthusiasm of the commune members to sell their surplus grain. The progress of grain procurement is quicker and the quality of grain is also better than in past years.

In many places where there has been a bumper harvest, after the fulfillment of procurement tasks at and above quota the commune members still have surplus grain on their hands. The grain departments are actively making further procurement by negotiating a price.

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CSO: 4007

NATIONAL

AGRICULTURAL REGIONS SAID IMPORTANT IN DEVELOPING LIVESTOCK INDUSTRY

Beijing GUANGMING RIBAO in Chinese 11 Nov 79 p 2

[Article by Liu Shaobo [0491 1421 0130] of the Department of Animal Husbandry of Beijing Agricultural University: "Several Problems in Developing Animal Husbandry"]

[Text] In the entire agricultural sector, livestock production mainly comes from agricultural regions, not from livestock regions.

There is a saying now: Our nation has 3.5 billion mu of grasslands that can be utilized and livestock regions have a great potential for development. I believe this saying is worth scrutiny. Our nation's livestock regions produce between 400,000 and 500,000 tons of meat a year and the highest estimate is less than 600,000 tons, equivalent to 8 percent of the present amount of meat production of the entire nation. According to the present situation, not much commerical meat can be provided in the short run. Australia has 7 billion mu of grassland, onefold more than our nation, and it is now one of the most developed nations in animal husbandry. Its annual production of meat is only over 2 million tons. Even if our nation's livestock regions reach the present (production) level of Australia within 10 to 20 years from now, the estimated production of meat will only be over 1 million tons. This will not be enough to solve the nation's demand for meat. We must emphasize building of livestock regions but we should not place an inappropriate degree of emphasis on them.

The real potential of animal husbandry is in the agricultural regions, not in the livestock regions. The dream of relying entirely on the livestock regions to solve our nation's deficiency in meats will not come true. Overly inflating the function of livestock regions and neglecting agricultural regions will hurt the overall development of animal husbandry, and hurt realization of agricultural modernization.

Experience of the world's nations in production of meats for food indicates that in the nations that rely mainly on animal husbandry to produce meats even when modernized means of production are used, the yield has never been as high as that of nations that have combined agriculture and animal husbandry. Mongolia, Australia, Argentina, Mexico, and Brazil are all nations having large territories and large areas of grasslands but the amounts of their meat production are limited. Brazil is slightly smaller in area than our nation and its meat production is only about 3 million tons. The United States which combines agriculture with animal husbandry is different. Its total production of meat, including pork and fowl reaches over 25 million tons, almost one-fourth the world's total. Our nation has a huge population. Is it not clear which road of developing animal husbandry should be followed?

Our nation's agricultural regions have not paid attention to animal husbandry for a long time and the losses are great. Our nation has 73.6 million head of cattle, fifth in the world, and most are in agricultural regions. Annual production of beef is between 250,000 and 330,000 tons. The United States has 130 million head of cattle, and annual production of meat reaches over 11 million tons, ten times as much as our nation. The average amount of beef produced per head a year is 170 jin in the United States, it is 118 jin in the Soviet Union, 90 jin in Romania, while in our nation it is only between 6.8 and 8.9 jin. In the next 10 years, if the rate of maturity of cattle in our nation rises by 1 percent a year (even if the total number of head of cattle remains unchanged for 10 years), it will reach 17 percent (still lower than the world average of 19 percent, and even lower than the 37 percent of the United States). Production of beef will reach 1.5 million to 1.8 million tons (light weight estimate), three times the total amount of meat produced by the present livestock regions. A little effort may bring about big results. After 10 years, a portion of the cattle herds may be converted to mainly produce beef. This will play an even greater role in taking the initial steps towards modernization.

How can agricultural regions raise the commerical production of cattle? We must first look back and consider why the level of commercial production of cattle is low. The main reasons are: (1) The prohibition against slaughtering farm cattle has been in existence for 30 years. At first it effectively protected farm cattle but later it became a hindrance. Prohibition against salughter prevents them from being sold and the cattle become worthless, and who would want to develop cattle raising? (2) There is the problem concerning pricing policy. The Shandong provincial external trade department purchases a jin of beef for one yuan. The masses are satisfied. There has been cases of using alfalfa and fine feed to raise and fatten cattle. In Xinjiang, one jin of beef is worth only 35 cents. The activeness of the masses in raising cattle is not high. It is rare in this world that within one nation the prices differ so much.

At present, animal husbandry is being developed in both agricultural regions and livestock regions. The most beneficial to agricultural modernization is to gradually transform animal husbandry into a specialized industry in which labor is divided between the agricultural regions and livestock regions and then to recombine the two so that the livestock regions can provide the cattle and the agricultural regions and combined agricultural and livestock regions can raise and fatten the cattle and process livestock products. Each region could develp its strong points.

Should there be a primary animal among the six domesticated animals?

The proposal that the hog is the primary animal among the six domesticated animals is not beneficial to the development of animal husbandry, especially during the past when everything gave way to the hog and all other domesticated livestock were discriminated against, and hog raising was tied in with politics. Those who were against raising hogs were called counterrevolutionary. The adverse results were serious. Nearly 300 million hogs are being raised in our nation, close to half of the total in the world. Yet annual production of pork amounts to only 6.4 million tons, only 14.6 percent of the world's production of pork. The efficiency of production is low in the world. About 60 million hogs are raised in the United States (with minor variations in some years), only one-fifth the number of hogs raised in our nation, yet the production of pork is nearly the same as in our nation. The amount of feed consumed in raising hogs in our nation is estimated to be onefold that used in the United States.

Actually, our nation is rich in the raising of hogs. The supply of feed should be taken into consideration to raise the kind of hogs which should be raised. Raising slightly fewer hogs can raise the efficiency in the use of feed. If some feed can be used to raise cattle, goats and rabbits, it is entirely possible to produce one-third more meat.

From the point of view of development, raising more ruminant animals is better suited to our nation's conditions of having more people and less land and having more coarse feed and less fine feed. This will also reduce competition for food grains between animal and man. At present, hog raising is our nation's major activity in animal husbandry. Over 90 percent of the production of meat depends upon hogs. Hog raising must not be relaxed.

Is it feasible to take animal husbandry as the major activity?

As agricultural production develops, as agricultural products are enriched, animal husbandry will gradually change from a primitive, herding and sideline type of livestock production to a specialized, intensive and factory-type of livestock industry. Japan, Denmark, Holland, and Britain depend upon imported feed to realize an agriculture centered around the livestock industry. But it is more difficult in such a large nation like ours. The total international trade in food grains is between 130 million and 150 million tons a year. Even if half of this total is feed, the amount of feed would not be large. Some people have estimated that after 10 years, there will be a shortage of 30 million tons of food grains a year in international trade. Our nation of course cannot depend upon foreign trade to develop animal husbandry. As to the efficiency of production of domesticated animals, the feed is eaten by the domesticated animals and they become livestock products. Energy of between 66 percent and 85 percent is lost. Without plenty of agricultural products, without the assistance of industry, without a strong organizational force of society, it is very difficult to realize an agriculture in which animal husbandry is the main activity.

Developing new zones of agriculture and livestock combined and establishing commercial zones for livestock products

The areas in our nation where agricultural regions and grazing regions meet naturally form half agricultural and half grazing zones. These generally constitute the transitional zone from the high mountain plateaus towards the plains. The zone stretches for 5,000 kilometers from the Dazinganling, slants towards the southern side of the plateau of Nai Monggol, connects with loess plateau and then slants towards the east side of the Xikang and Xizhang plateau. Many kinds of food grains wer emphasized in these areas in the past. Widespread plantings, poor harvests, unplanned development and reclamation of land seriously damaged the agricultural ecological system. Erosion by wind and soil becoming sandy, leakage of water and soil, and profusion of ditches caused livestock production to drop year after year. Some soils have become unsuitable for planting. Large land masses are laid to waste. Because this region is a natural barrier to the broad agricultural region, after its damage, agricultural production in the agricultural regions in the plains was affected. Thus, by developing this region into a combined agricultural and livestock region centered around planting of grazing grasses, by rotation cropping, by combining agriculture and livestock so that agriculture in the region can support animal husbandry and animal husbandry can stimulate agriculture, by changing management policy, by turning damages into advantages, not only will increases in agricultural and livestock production in the region be promoted, but also a new "ten thousand li great wall" of a vast agricultural region can be built anew, and the vicious cycle of agricultural and livestock production can be turned around. Combined with forestation at the source of water, these will be important in balancing the ecology of the vast agricultural regions. This is a problem of important strategic policy that affects the entire national economy.

This type of half agricultural and half grazing regions have many advantages. For example, the labor force is more plentiful than in grazing regions. There is a custom of planting. There is more land (five mu or more per person). There are many hilly ranches for planting of grazing grasses. There are better conditions for growth of agricultural crops and grazing grasses. The regions face the warm air flow from the Pacific. The amount of rainfall, the climate, water and soil conditions are all better than the grazing regions and neighboring regions. There is less investment for water conservancy. There is a definite number of domesticated animals and a custom of raising domesticated animals and conditions for pens and fenced zones. It can be said that these regions possess the advantages of both the grazing regions and the agricultural regions. But they also have their shortcomings. For example, the land is not flat, the topography is not uniform, some regions are unsuitable for mechanized planting. But as long as organization and leadership are strengthened, investments are concentrated and assistence is given, their great potential can be developed and they can become protective regions of the ecology of agricultural regions, and the regions for fattening livestock raised in the grazing regions and for processing of livestock products. In this way, slow turnover of livestock in grazing regions (cattle require 4 or 5 years before they reach sufficient weight for slaughter) and the problem of a low rate of commerical production can be solved so that these regions can become the commercial zones for our nation's livestock products and they can support industrial and mining cities.

The United States established the corn production belt and combined agriculture and livestock production, stimulated a high degree of development of animal husbandry, and production has surpassed that of specialized animal husbandry nations. If our nation establishes a grazing belt of several thousand kilometers, it will be very effective in turning over our nation's agriculture and animal husbandry.

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CSO: 4007

HAINAN COUNTY BECOMES EXPERIMENTAL BASE FOR TROPICAL CROPS

Guangzhou NANFANG RIBAO in Chinese 18 Jan 80 p 2

[Article: "Supply Scientific Data for the Development of Tropical Crops"]

[Text] The investigation of land resources and the work of dividing districts will soon start systematically in China's tropical and southern subtropical areas. Luodong [2867 2639] County, on Hainan Island of our province, is taken as an experimental base.

This was announced at the national conference on the survey of land resources and the division of districts in China's tropical and southern subtropical areas, held in Guangzhou from 9 to 15 January.

These areas are located in parts of the four provinces (regions) of Guangdong, Guangxi, Fujian and Yunnan--for example, Hainan Island and Xishuangbanna. The main purpose of the survey and division is to have a general knowledge of the land resources of these areas through a comprehensive survey in various branches of study, to find out the kind of crops most suitable for development in some of the areas, and to determine ways of seeking the advantages and avoiding the disadvantages of even distribution and comprehensive consideration, so that it will be possible to give full play to soil fertility, to make the best use of the natural conditions, and particularly to develop tropical crops of high economic value, that are peculiar to these areas. This conference was held jointly by the Ministry of State Farms and Land Reclamation under the State Council and Guangdong Provincial People's Government. Those who attended the conference included responsible comrades of the State Agricultural Commission and related quarters of the four provinces and regions as well as specialists and scholars of the Chinese Academy of Sciences, the Chinese Academy of Agricultural Sciences, the Chinese Academy of Forestry Sciences, Beijing University, Zhongshan University, Fujian Teachers College, and other units. The conference studied and arranged all the work. Responsible comrades of the party and government of Guangdong Province, including Xi Zhongxun [5045 0112 8113], Yang Shangkun [2799 1424 2492], Liu Tianfu [0491 3944 1133], and Wang De [3769 1795], came to the meeting and listened to the experts.

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CSO: 4007

'XINHUA' REPORTS ON SPRING AFFORESTATION ACTIVITIES

OW281808 Beijing XINHUA Domestic Service in Chinese 0257 GMT 28 Mar 80 OW

[Excerpts] Beijing, 28 Mar--Special column: Seize the favorable time to carry out spring afforestation.

Shaanxi Starts Spring Afforestation in an All-round Way

The mass spring afforestation activities in Shaanxi Province have begun in an all-round way from the south to north. As of now, the province has afforested over 200,000 mu of land and planted over 5.8 million trees near villages and houses and along roads and streams. As of now, Hanzhong Prefecture has afforested 117,000 mu of land, planted 3.78 million trees and cultivated over 700 mu of saplings, the most prolific record in the province.

The national youth afforestation conference held in Yanan Municipality last year greatly inspired the broad masses of youths and children. Approximately one-third of the afforestation and sapling cultivation tasks throughout the province was fulfilled by youths and children.

Fujian Province Has Completed Over 70 Percent of Its Spring Afforestation Tasks

Since the beginning of this spring, Fujian Province, one of the four major forestry regions of our country, has vigorously carried out afforestation activities. As of 5 March, the province had afforested 2.21 million mu of land, fulfilling 74 percent of its tasks.

Zhejiang Province Whips Up an Upsurge in Spring Afforestation

As of 10 March, Zhejiang Province had afforested 600,000 mu of continuous tracts of land, planted 30 million trees near villages and houses and along roads and streams and cultivated 30 million mu of saplings. At the same time, the province had developed 1 million mu of mountain land, making preparations for afforestation and forest cultivation.

Zhejiang Province's spring afforestation was carried out on a large scale after the spring festival. Recently about 1 million people have joined the ranks of spring afforestation to do daily afforestation work.

Hubei Scores Rapid Progress and Fine Quality in Spring Afforestation

Hubei Province has scored rapid progress and fine quality in afforestation this spring. As of early March, the province had afforested and developed over 3 million mu of land in various areas and afforested over 2 million mu of continuous tracts of land, an increase of more than 20 percent over the same 1979 period. Each person planted an average of over three trees near villages and houses and along roads and streams.

CSO: 4007

'RENMIN RIBAO' COMMENTS ON WATER CONSERVANCY PROJECTS

HK021414 Beijing RENMIN RIBAO in Chinese 10 Mar 80 p 2 HK

[Commentator's article: "Water Conservancy Projects Must Better Serve the Overall Development of Agriculture"]

[Text] Water conservancy projects are indispensable fundamental requirements for production and development of agriculture, forestry, animal husbandry, sideline occupations and fishery. Forests can contain moisture, conserve water and soil, regulate climate and lighten the disasters brought about by floods and drought. If we want trees to survive and grow, we need water. If we want meadows to flourish and livestock to be fat and strong, we also first need water. We must find a good solution for the drinking water problem for man and livestock and develop irrigation. Building water conservancy projects is closely related to the development of fishery. In a word, to have a new and all-round increase in agriculture, forestry, animal husbandry, sideline occupations and fishery, we must promote water conservancy projects.

Over the past 30 years since the founding of the country, the whole country has built a large number of projects to guard against flooding, excavated and dredged many channels to divert floods and drain waterlogged fields, built more than 80,000 reservoirs, electromechanical drainage and irrigation stations totaling more than 60 million horsepower, over 2 million motor-driven pump wells and a large number of other water conservancy facilities. Hydroelectric generation has also been greatly developed and small hydroelectric power stations alone have a total installed capacity of more than 6 million kilowatts. At present, the irrigated areas of the whole country have reached more than 700 million mu and a large number of fields with guaranteed harvests irrespective of drought and floods have been built which have played an important role in the development of agricultural production.

If we want water conservancy projects to serve the overall development of agriculture, we must stress the promotion of increased grain and cotton production, and particularly strengthen water conservancy construction in all kinds of production bases. At present, our water conservancy construction far from meets the needs of the development of agriculture. The area of irrigated fields is less than half that of the arable land and fairly large areas are either liable to flooding or consist of low yield fields which have not been improved. In accordance with the requirements of high and steady yields in agriculture, places where water conservancy conditions are poor must vigorously develop water conservancy projects to enhance their ability to resist the disasters brought about by floods and drought; places where water conservancy conditions are comparatively good must also continue to raise the standards of flood prevention, combating drought and draining waterlogged fields to avoid serious drought and floods.

In embarking on water conservancy construction in the past, we attached more importance to the guarantee of the requirements of grain and cotton production than to the guarantee of the requirements of forestry, animal husbandry, sideline occupations and fishery. To implement the principles of "simultaneously promoting agriculture, forestry, animal husbandry, sideline occupations and fishery" and "taking grain as the key link, insuring all-round development, taking such measures as are suitable to local conditions and carrying out proper concentration," we must appreciate that in our country the 1.5 billion mu of fields, some 4 billion mu of grassland, the vast mountainous areas and hilly regions which are suitable for afforestation and animal husbandry and the water surface which is suitable for aquatic products urgently rely on water conservancy construction. Water conservancy workers have a large amount of work to do. Taking animal husbandry as an example, one-fourth of the meadow area in our country does not have a sufficient supply of water and 40 percent has no supply of water. As the drinking water problem for man and livestock has not yet been solved, the vast meadows cannot be utilized. Lack of grass in the existing pastures is almost a common phenomenon. Where there is water there is grass. The area of our country's existing reservoirs amounts to 30 million mu and one-third has not been utilized. The average mu per yield of fish of the water surface utilized is less than 12 jin and the potential is still very great. In cultivation, animal husbandry, gardening and afforestation, we must lay our future emphasis on the promotion of the mu per yield. If we want to promote the mu-per yield, the development of irrigation is an important measure. The breeding of aquatic products also requires water conservancy projects to provide more favorable conditions.

Two weak links now exist in water conservancy work: One is that the fundamental work, such as hydrology, survey, design, scientific research and planning, cannot catch up with the requirements of the situation; another is that the administration side of construction work cannot catch up with it. To develop water conservancy projects with greater, faster, better and more economical results, we must give priority to the development of small water conservancy projects and to the rounding off of the existing water conservancy system, rely mainly on communes and brigades to run water conservancy projects by themselves, strengthen management, emphasize practical results and eliminate weak links. We must adopt a strictly scientific attitude and really insure that when a water conservancy project is built, it is completed right down to the last detail. No matter whether they are large or small projects, we must control and use them well, establish a strict responsibility system and emphasize practical results.

Since water conservancy work is a mass work, we must fully mobilize and rely on the masses to embark on water conservancy construction. It is essential that the state must give vigorous support in financial and material resources. However, the state should not monopolize it and cannot actually monopolize it. Over the past 30 years, we have carried forward the spirit of building an enterprise through arduous effort, transformed China "as the foolish old man removed the mountains," [as printed] relied on the superiority of collective ownership, carried out socialist cooperation on the basis of voluntary participation, mutual benefit and equitable distribution of burden and built a large number of projects. In the future, we must persistently carry forward this spirit. Water conservancy projects must serve the overall development of agriculture and be integrated in every respect. The Ministry of Water Conservancy and Power recently demanded that the water conservancy departments of all places further expand the scope of water conservancy projects. Meanwhile, we hope that the relevant departments in agriculture, forestry, animal husbandry and aquatic products will actively coordinate and closely cooperate with each other. Through our concerted efforts, we must fully exploit our country's superior natural conditions and fully tap every potential so as to insure a great development of agriculture, forestry, animal husbandry, sideline occupations and fishery.

CSO: 4020

PROPER USE OF GREEN MANURE VITAL TO INCREASED RICE OUTPUT

Guangzhou NANFANG RIBAO in Chinese 24 Jan 80 p 3

[Article by Lin Yin [2651 5419]: "The Secrets of Green Manuring"]

[Text] The weather this winter is mild. The omnipresent crops of green manure of the Chinese milk vetch and Chinese trumpet creeper, growing thick and dense, look just like pieces of green carpet, making us really happy.

The Chinese milk vetch, also called red-flower grass, and the Chinese trumpet creeper are very good green manure of the pulse family. As a rule, from each mu of ricefield dressed with 2,000 jin of green manure, the output of unhusked rice will generally increase by more than 20 percent. However, if we know the law of growth of green manure well and understand the scientific secrets of green manuring, perhaps its effect on increasing the output of paddy rice will be even more conspicuous.

According to observations, green manure is rather "delicate" in "temper" during the period of sprouting and grows very slowly. When the average day-time temperature is 12 degrees centigrade, it grows less than one half centimeter per day; however, when the temperature goes up to 20 degrees, it can grow more than 2 centimeters a day. When the plant is going to bud and bloom, it becomes unusually "bold and vigorous" and not only grows to be very tall but also stretches its branches and leaves out in length and breadth, becoming very strong and robust. According to the measurement of Japanese agronomist [Yamamoyo] Shan Ben Yi Yan [1472 2609 5030 1750], around the time of blooming, each plant of Chinese milk vetch will gain 15 percent in weight every 10 day period. This explains why its yield increases very quickly in the late period of its growth. If each mu has 2,000 jin of plants in growth, 300 jin more green manure may be gained by allowing the plants to stay alive for another 20 days. Therefore, one of the secrets for increasing the output of green manure and enlarging the effect of green manuring is the appropriate prolongation of the growing period.

After all, what is the proper time for green manuring? This is also a secret. Apparently, green manure looks like a bundle of watercress. In fact, it has many soft cells and much cellulose. When it is plowed into the earth in fields containing water, its soft cells being to rot in 4 or 5 days and release soluble nitrogen fertilizer. But its cellulose cannot easily decompose at once; within a short time the content of potassium fertilizer can hardly be absorbed by the early rice. As the saying goes, "The flesh of leaves becomes a pool of water; the bones of leaves become a handful of dregs." To learn the timing of the decomposition of green manure, some experts found from experimentation and analysis that fresh green manure releases 21 percent of its nitrogen after 7 days of manuring, 48 percent after 15 days, and 65 percent after 30 days. However, with some half-dry and half-wet green manure, the speed of the release of nitrogen is reduced by about half in each case. These figures give us an important revelation: the timing of green manuring should bring practicial results generally agreeing with the time when the paddy rice requires fertilizer. As a rule, the early rice reaches the stage of peak tilling about 20 days after transplanting. During this period, the sprouts need considerably more nourishment to grow fast and become strong. If we can provide them with fertilizer promptly, then we have truly met the needs of the paddy rice and have rendered an outstanding service to the increase of grain production.

During the season of preparing for seeding, spring rain comes frequently. If there is the slightest negligence, the rain will wash away the fertilizing water and the root nodules, with the result that our hard labor through the winter will go to waste. It has been established through experiments that the nitrogen content of Chinese milk vetch and Chinese trumpet creeper is at its peak from the time of incipient bloom to the time of full bloom, and that it begins to decline after podding. Right from the beginning of last winter, however, the weather was not very cold, and green manure will bloom ahead of time. What can we do? The best course is to follow the principle of "the more to gain, the less to lose," duly prolong life of green manure, and, about 2 weeks before the time for transplanting rice sprouts, turn over the green manure by plowing for exposure to the sun, apply a little lime, build the field foundation, block all water outlets, and then irrigate the fields with water, soak the green manure and prepare the fields. By doing this, it will be possible to bottle up all the fertilizing water in the fields and to allow the hungry seedlings of the early rice to eat their fill!

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HUANGHE RIVER MUDDY WATER USED TO RAISE FARM YIELD

OW261307 Beijing XINHUA in English 1248 GMT 26 Mar 80 OW

[Text] Beijing, 26 Mar (XINHUA)--Yellow River water with high sediment content, traditionally a source of trouble to hydraulic engineers, is now helping to raise farm yield.

According to papers presented by Chinese scientists at the current international symposium on river sedimentation, water from major Yellow River tributaries in Shaanxi Province with a sediment content as high as 35 per cent (by weight) has been used successfully for field irrigation.

The general practice in operating major Yellow River irrigation systems in the province until five years ago was to close the systems whenever the sediment exceeded 15 per cent (by weight).

The importance of the successful new method is that the Yellow River and other rivers in dry northwest and north China are swollen by rainfall and become turbulent muddy streams during the rainy season from July to September. Then they dwindle sharply and become less muddy for the rest of the year. In these parts of China, over half the annual rainfall, ranging from 200 to 500 millimetres, falls in the few rainy months. Yet in the hot months when the evaporation is rapid, dry spells often threaten the crops only a few days after rain. Scientists therefore decided to use the muddy water of the swollen rivers to moisten the soil.

The scientists have also succeeded in using muddy water with a sediment content up to 60 per cent to flood plots of saline and alkaline wasteland so that the sediment deposited forms a surface soil layer. Since the sediment is washed from fertile topsoil on the loess highlands, it contains nitrogenous and phosphorous substances and organic matter and helps to raise soil fertility.

Back in the sixties, efforts were made by scientists to use silt-laden water from the Luohe River to irrigate farmland. Starting in 1975, experiments were carried out on a larger scale cooperatively by scientists of 11 research institutes, agricultural and water conservancy departments and related colleges in Shaanxi Province. Their research results are now widely used.

With the help of the scientists, muddy water from the Jinhe, Luohe and Weihe, major tributaries of the Yellow River, have been diverted to three irrigation systems. The land irrigated by these systems, sown to maize, cotton, wheat and other crops, covers 330,000 hectares in the Guanzhong area, a grain and cotton producing centre in Shaanxi.

Results of experiments show that water with a sediment content of from 50 to 60 per cent can be transported up to 50 kilometres or more to farmland, provided the ditches have adequate gradients and that the water flow is kept at a rate that prevents excessive depositing of sediment.

The Guanzhong area was menaced by a severe drought in 1977, yet the irrigated fields produced a good harvest. A similar drought in 1929 before liberation caused a crop failure.

On small experimental plots irrigated with sediment-laden water from the Weihe River, the increases in crop yields ranged from 22 to 39 per cent.

The scientists have developed a method for improving sandy soil by irrigating it with water containing clay silt, and of improving clay soil by irrigating it with water carrying sandy sediment.

CSO: 4020

RICE PLANTLETS FROM POLLEN CULTURE DEVELOPED

Beijing GUANGMING RIBAO in Chinese 25 Jan 80 p 1

[Text] The Institute of Genetics and the Institute of Botany of the Chinese Academy of Sciences developed rice plantlets from pollen culture and obtained a complete picture of the process of pollination and fertilization.

Research technicians at the Institute of Genetics of the Chinese Academy of Sciences obtained from rice plants stamens which had been separated from the parent plants for 2 days, and immersed the pollens from the stamens into a nutritional medium. Under certain temperature and light conditions, pollens released from the stamens continued to grow and develop. In the course of more than 10 days, the pollens developed into a group of cells called yu shang zu shi [1937 0281 4809 4930]. Technicians at the institute transplanted these cells into another growth medium for more than 20 days after which small, green rice seedlings began to germinate. These seedlings underwent artificial chromosome transplantation and propagation, and the end products were like ordinary rice seedlings which grew up from the soil.

Scientists all over the world have continued to improve research on plant propagation. The conventional method is through seed selection in order to improve the quality of the resulting plants. This method takes a long time and consumes a lot of manpower and resources.

Improving the quality of plants through artificial cell mutation is a foremost subject in the sciences. The growth of rice plantlets through pollen culture offers faborable factors for this kind of research. The "cultivation" in a tiny pot of innumerable pollens form which rice plantlets germinate direcly is a method much simpler and more economical than seed selection and plant improvement.

At present, some scientists have adopted pollen culture to produce such plants as tobacco, manioc, and eggplant. However, there are still many problems in cultivating grain crops using the method. The Institute of Genetics and the Institute of Botany of the Chinese Academy of Sciences respectively developed rice plantlets from pollen culture in 1979. In the same year, the Institute of Genetics made new progress in the work, and shortened the period of fertilization from between 5 to 7 days to 2 days. This was yet another stride in our work on pollen culture that had been conducted over the past few years.

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BRIEFS

DROUGHT AID WORK GROUPS--Beijing, 19 Mar--The State Agricultural Commission and the drought-combating group under the State Council have sent six work groups recently to the provinces and autonomous regions in northern China hit by a long dry spell. Leading these groups are vice-ministers of agriculture, water conservancy, food and machine-building industry assisted by 30 other cadres. They will help the local cadres and peasants fight against the drought. [Text] [Beijing XINHUA in English 0827 GMT 19 Mar 80 OW]

PUMP WELL CONSTRUCTION--Beijing, 26 Mar--Two point two million pump wells have been dug since 1973 in north China which has not had enough surface water. In recent years, there have been successive droughts in north China and 40,000 million or 50,000 million cubic meters of water has been lifted annually from under the ground by using pump wells. That is close to the total water capacity of the Huanghe River in a year. The areas irrigated by pump wells were 11,333,333 hectares, accounting for one-third of the total area in the north. In addition, more than 3,000 wells and other water conservation projects have also been built in pasture areas. Last year, the production of summer crops in Hebei, Shandong, Henan provinces and Beijing, which have more pump wells, increased by more than 60 per cent over 1973. [Text] [Beijing XINHUA in English 1227 GMT 26 Mar 80 OW]

RICE BRAN OIL OUTPUT--Beijing, 27 Mar--China's annual output of rice bran oil surpasses 75 million kilograms, according to China's State Grain Department. The oil has nutritive value of general vegetable oil, experts say, and also has oleic acid. They say the oil may prevent hypertension and arteriosclerosis. The experts also said that the oil is obtained by a process of pressing so it does not contain any poisonous materials. [Beijing XINHUA in English 0723 GMT 27 Mar 80 OW]

VEGETABLES UNDER PLASTIC--Beijing, 23 Mar--The use of plastic film material to cover vegetable plants to help them mature early is becoming more popular in China. Farms in the suburbs of Shanghai applied the new technique last year on 450 hectares of vegetable fields, and farms in the suburbs of Beijing plan to use the technique this year on 530 hectares. Experiments in the northern parts of China show that a dozen varieties of vegetables, including tomatoes, cucumbers, eggplants and green pepper, generally tended to mature early by 7 to 9 days, and that their yield increased by 20 to 30 percent, using the technique. [OW231151 Beijing XINHUA in English 0721 GMT 23 Mar 80 OW]

STATE AGRICULTURAL SCIENCE MEETING--On 2 March, the scientific discussion to comprehensively make use of and improve the red loam and fine yellowish grey loam held by the State Science Commission, the State Agricultural Commission and the Ministry of Agriculture concluded in Nanchang after 7 days. Taking part in the discussion were 100 persons including representatives from Zhejiang, Yunnan, Guizhou, Guangxi, Guangdong, Fujian, Anhui, Hunan, Hubei, Sichuan, Ministry of State Farm and Land Reclamation, Ministry of Water Conservancy, the Chinese Academy of Sciences and Beijing Agricultural University. Tong Dalin, vice minister of State Scientific and Technological Commission and He Kang, vice minister of the State Agricultural Commission, also took part in the meeting and spoke. The participants studied the economic and technological policy in opening up and making use of red loam and fine yellowish grey loam and formulated scientific research plans. The participants revealed that red loam farmland accounts for 36 percent of the total farmland in the south. This includes 80 million mu of low-yielding farmland which still has not been transformed. They pointed out the comprehensive use and improvement of the red loam and fine yellowish grey loam is one of the 108 key scientific research items throughout the country. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 7 Mar 80 HK]

FOREST DEVELOPMENT MEETING--Sponsored by the State Agricultural Commission, a meeting of the leading group in charge of the construction of shelterbelts in north, northeast and northwest China was held in Beijing recently. The meeting participants noted that the main task in the next 2 years is to do a good job in protecting existing forests and fulfilling plans for building shelterbelts in the three regions. [OW281111 Beijing Domestic Service in Mandarin 1200 GMT 22 Mar 80 OW]

SMALL-SCALE ENTERPRISES--China's commune- and brigade-run enterprises are growing healthily amid readjustment. According to statistics of 28 provinces, municipalities and autonomous regions, the total income of the country's commune- and brigade-run enterprises reached 48.08 billion yuan in 1979, or 11.45 percent over 1978. Jiangsu, Shandong, Hebei, Guangdong, Zhejiang, Hunan, Liaoning, Henan, Shanghai and Hubei each achieved a total income exceeding 2 billion yuan, with Jiangsu registering some 6.9 billion yuan and Shandong registering some 5 billion yuan. [Beijing Domestic Service in Mandarin 1200 GMT 25 Mar 80 OW]

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ANHUI AGRICULTURE--On 25 February the Anhui Provincial People's Government called for efforts to step up wheat field management. As of 13 March, localities throughout Anhui had topdressed 27.23 million mu of summer crops, or 89.7 percent of the province's 30 million mu of summer crops. Suxian, Luan, Xuancheng, Chaohu, Huizhou and Anqing areas and state farms in suburban Bengbu Municipality had topdressed over 93 percent of their wheat fields. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 24 Mar 80 OW]

SUIXI COUNTY COTTON PRODUCTION--The per-mu yield on 110,000 mu of cottonfields in Suixi County, Anhui, reached 105 jin last year. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 26 Mar 80 OW]

SI COUNTY SILKCOCOON PRODUCTION--Si County, Anhui, has greatly promoted silkcocoon production over the past few years. In 1979, the county procured 792 dan of silkcocoon or 50 percent more than that of 1978. [Hefei Anhui Provincial Service in Mandarin 1100 GMT 18 Mar 80 OW]

TELEPHONE CONFERENCE HELD--The Anhui People's Government held a telephone conference on 18 March, calling on the rural cadres and masses throughout the province not to lose time and to do a good job in early rice, early corn and early sweet potato production. Meng Fulin, vice governor, spoke on concrete production measures. (Jiang Sheng), responsible person of the Provincial Agricultural Commission, presided over the conference. In 1979, total output of early rice, early corn and early sweet potatoes in Anhui was more than 10.2 billion jin, accounting for 31.8 percent of the province's total grain output. [OW201425 Hefei Anhui Provincial Service in Mandarin 1100 GMT 19 Mar 80 OW]

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BRIEFS

YOUTHS PLANT TREES--Beijing, 29 Mar--As part of a tree-planting drive now sweeping the whole of China, every young peasant on the outskirts of Beijing will plant an average of 10 trees during the "tree-planting month" from mid-March to mid-April, according to a news story in today's BEIJING DAILY. Members of every communist youth league cell in the mountainous areas on Beijing's outskirts will plant trees on barren hillslopes or wasteland. Youth league members on the plains will plant trees along roads and irrigation ditches. In the centre of Beijing, youth will plant trees and grass and grow flowers. The tree-planting month is in response to a joint directive on afforesting China issued earlier this month by the Communist Party Central Committee and the State Council. According to the BEIJING DAILY, young people on the outskirts of Beijing planted a total of 5 million trees last year. [Text] [Beijing XINHUA in English 0252 GMT 29 Mar 80 OW]

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BRIEFS

SPRING FARMING LOANS--To reap bumper harvest of agriculture this year, the Fujian branch of the Chinese Agricultural Bank provided 62 million yuan in agricultural loans in January and February 1980. This was an increase of 18.5 percent over the corresponding period of 1979. The people in this province plan to spend 700 million yuan on agricultural production this year. The agricultural loans alone account for 560 million yuan. This is the largest amount of funds to be spent on agricultural production since the founding of the country. The agricultural loans in Fujian this year will be mainly spent on supporting communes and brigades to develop commodity economies. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 14 Mar 80 HK]

SUGARCANE EXPERIMENT--An experimental sugarcane field owned by the Fujian Sugarcane and Hemp Research Institute produced 38,911 jin of sugarcane per mu. The sugarcane contains 13.66 percent of sugar. The record-yield crops were planted on 15 January 1979 and harvested on 14 March this year. [Beijing Domestic Service in Mandarin 0400 GMT 30 Mar 80 OW]

LEADERS AID IN AFFORESTATION--On 12 March the leading comrades of the party, government and army in Fujian took the lead to whip up an upsurge of mass afforestation. Taking part in afforestation were Ma Xingyuan, Jin Zhaodian, Wu Hongxiang, Li Zhengting, Yuan Gai, Wen Fushan and Bi Jichang, leading comrades of party and government of the province; Long Feihu, Shi Yichen, Wu Chunren, Wang Zhi, Lu Sheng, He Yunfeng and (Wan Huaqing), leading comrades of the Fuzhou PLA units, and Cai Liangcheng and (You Dexin), leading comrades of the Fuzhou Municipal CCP Committee. During arbor day, the commanders and fighters of the Fuzhou PLA units planted 450,000 trees around the barracks. [HK220419 Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 13 Mar 80 HK]

AFFORESTATION PROJECTS--By 10 March, 2.59 million mu of trees had been planted during spring in Fujian, accounting for 86 percent of this year's afforestation plans, while spring afforestation in Fuzhou Municipality, Jianyang, Longxi and Sanming prefectures and Minqing, Xianyou, Gutian and Fuding counties for this year has been completed. Since 1979 the people in Fujian have cultivated 42,000 mu of tree saplings, laying the foundation for large scale of afforestation this spring. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 13 Mar 80 HK]

ANIMAL HUSBANDRY--At the end of 1979 the Fujian People's Government issued stipulations on raising cattle and goats, and gradually increasing the number of cattle and goats. The work points from raising cattle should not be lower than the income from similar labor. Regarding rewards for those who increase the number of calves, the collectives should pay half the value of the calf to the household which raised the calf when it is a year old. The stipulations said that beef cattle and sheep can be sold to the foodstuff departments. They can also be slaughtered and sold by the keepers. When the animals are slaughtered, it is necessary to have the local veterinarian inspect them first to prevent the spread of diseases. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 19 Mar 80 HK]

AFFORESTATION RALLY--On 10 March, the people in Fujian held a mobilization rally on afforestation. The rally called on the armymen and people throughout Fujian to actively take part in the first afforestation activities of the 1980's, and whip up a new upsurge of spring afforestation. Wu Hongxiang, secretary of the Fujian Provincial CCP Committee and vice provincial governor, presided over the rally. Wen Fushan, standing committee member of the Fujian Provincial CCP Committee and chairman of the Fujian office of agriculture, forestry and water conservancy, spoke. He revealed that since the founding of the country, the areas in Fujian covered by forests had increased from 22.5 percent to 39.5 percent. However, 40 million mu of barren hills in the province still have not been put to use. The comprehensive use of forest resources is still very backward. The rate of lumbering exceeds the growth rate. He called on the leading cadres at all levels to go deep into the first line of afforestation and mobilize the people in the cities and countryside to insure the fulfillment of this year's afforestation tasks. [HK200226 Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 11 Mar 80 HK]

TAINING COUNTY AFFORESTATION--By 5 March, the people in Taining County had planted 31,000 mu of trees, overfulfilling the tasks of afforestation. In late February, the leading cadres of the county went deep into the communes and brigades to grasp afforestation work. The county has increased the number of laborers from 4,000 to 15,000 to take part in afforestation. The daily progress has increased from 1,000 mu to 4,000 mu. In less than half a month, the people in this county have fulfilled 31,000 mu of the afforestation tasks. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 14 Mar 80 HK]

FUDING COUNTY AFFORESTATION--By 6 March, the people in Fuding County had planted 73,500 mu of trees, overfulfilling the whole year's afforestation plans by 22 percent. Before the Spring Festival, 10,000 full-time labor forces had built 35,000 mu of land for planting trees. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 14 Mar 80 HK]

FOREST PROTECTION--Jiangning County is a national advanced county in protecting forests and preventing fire. There are 1.5 million mu of forests in this county which is in the northwest of the province, containing 10 million cubic meters of timber. This county provides 50,000 cubic meters of timber to the state yearly and 180,000 bamboos. This county is one of the main forest counties in the province. A total of 110 km of new "fire prevention" roads have been built throughout the county. At the same time, two observation towers capable of supervising one-third of the forests in the county have also been built. The towers are equipped with telephones, walkie-talkies and telescopes. [Fuzhou Fujian Provincial Service in Mandarin 1035 GMT 24 Mar 80 HK]

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GANSU

BRIEFS

GANSU WEATHER--According to a weather forecast, in the northwest and eastern areas of Gansu Province, the temperature will be 10 degrees centigrade lower than average from 8-10 March, while in other areas of the province the average temperature will be 7 to 9 degrees centigrade below average. [Lanzhou Gansu Provincial Service in Mandarin 1125 GMT 7 Mar 80 SK]

CSO: 4007

SOCIALIST COMMERCE, RURAL SUPPORT VITAL TO NATIONAL ECONOMY

Guangzhou NANFANG RIBAO in Chinese 9 Feb 80 p 3

[Article by Ni Jiuao [0242 5468 027[illegible]] and Zhang Zhongshen [1728 0112 3234]]

[Excerpt] How to carry out socialist commercial work which is appropriate to the needs of the four modernizations is an important question which must be solved in current commercial work.

The role and position of socialist commerce in the national economy is based on the Marxist theory of the circulation process of production. Marxism regards the production process in society, which includes four elements, namely production, distribution, exchange and consumption, as an indivisible, organically integrated entity. The reproduction process in society begins with production, passes through distribution and exchange to end with consumption and then through production again beginning a continuous cyclical movement. Socialist commerce is a sector that specializes in commodity exchange and is a bridge that connects production and consumption. Without this bridge, on the one hand, raw materials, production tools and equipment, which are needed by the production sector and means of livelihood needed by the labor force will not be able to be supplied; on the other hand, products from production will not be able to be channeled to the consumption arena. Take the supply and marketing cooperatives in this province, every year we have to organize for rural area such agricultural production materials as more than 3 million tons of chemical fertilizer, 100 thousand tons of agricultural chemicals, 130,000 tons of diesel fuel for agricultural use, and more than 60 million small, and medium-sized agricultural tools and [various] means of livelihood which amount to more than 3 billion yuan. At the same time, approximately seven million tons of agricultural byproducts produced by rural areas to supply the city, industry and exports are purchased. It is not hard to imagine, without this bridge of commerce and without the hard work of the several hundred thousand workers in commerce, socialist production cannot be carried out, the national economy will stop, the consumption of the people will not be satisfied, and the goal of the socialist production will then be hard to realize. Thus any point of view that looks down on exchange and commerce is erroneous.

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GUANGDONG CADRES DISCUSS RURAL MANAGEMENT, ADMINISTRATION

Commentary on Problem

Guangzhou NANFANG RIBAO in Chinese 20 Jan 80 p 1

[Article: "The Analysis of Problems and the Liberation of Thought"]

[Text] The living spirit of Marxism is the concrete analysis of concrete problems. The comrades of Meixian Prefecture carried out concrete analysis, liberated thought, and promoted the implementation of government policies regarding the rash criticism and negation of "division, contract, and criterion" that existed during the tyrannical period of Lin Biao and the "gang of four". They did so correctly.

Within the production team, work was divided into groups, work was contracted to work groups, and the combined output was calculated for the payment for labor. The two policies of division and contract have been tested practically, and more and more people consider that there are no problems and that there is nothing to fear from it. But there are still many people who are afraid of "criterions," even to the extent of becoming frightened at the very mention of "criterion." However, once they are analyzed, right and wrong become clear. So-called "criterion" means the contracting of suitable production items to people and to household sideline occupations such as the breeding of fish or the raising of geese. When the "criterion" method, in adoption production is contracted down to individuals or to households (of course, if the fish-breeding or geese-raising industries are on a large scale, they can be contracted to a specialized task group). This is beneficial to developing the specialities of commune members, and even better, the natural resources actually become the riches of the commune. With production items such as breeding fish and raising geese, it is even more essential than it is for rice production to have thorough management and a clear and definite system of responsibility. Therefore, under certain conditions, after having been agreed upon by the commune members, the adoption of the "criterion" method and the implementation of a production system of responsibility will be beneficial to advancing the superiority of the socialist system and will be able to increase output conspicuously. What is there to fear in this?

Practice is the sole criterion for testing truth. We need to analyze problems, draw clear lines of demarcation, and liberate thought. To bring life to the rural economy we should go to the masses and sum up their practical experiences. At the same time, it is necessary to lead the masses in resolving and implementing policies with which they have had problems and to strengthen ideological and political work so that the masses can truly conform to the principle of combining collective and individual benefits. This will make a greater contribution to the collective. The comrades of Meixian Prefecture, following Marxist doctrine, summed up the lessons of experience of the local masses. They also comprehended that for the management of the rural people's communes they needed only to uphold the principles of public ownership of the means of production and distribution according to labor, which can be carried out in various forms. Having carried out their work in this manner, they were able to create irreversible tendencies and significantly stimulate the rural economy.

In the past year, agriculture has had to rely on government policies for food. Naturally, the concrete situation in each location is different, natural conditions are not the same, and levels of management vary. The concrete methods adopted by Meixian Prefecture are not necessarily applicable to other regions, and each area should not uncritically use these methods. We hope that comrades in each area will be able to quickly sum up the practical experiences of the local masses, analyze problems, liberate thought, eliminate resistance, implement government policies, and to a greater extent awaken the enthusiasm of the masses and attain all-around bumper harvests in agriculture.

Meixian Prefecture's Experiences

Guangzhou NANFANG RIBAO in Chinese 20 Jan 80 p 1

[Article: Report by reporter Fan Yijin [5400 0110 6930] and correspondent Huang Wen [7806 2429]. "The leading cadres in Meixian Prefecture, in discussing problems of rural management, mention the need to carry out concrete analysis of 'division, contract, and criterion'; The rash criticism of 'division, contract and criterion' which has deeply influenced the people's thought is condemned as capitalistic. It is essential to advance the 'five decisions and one aware' system of responsibility and wipe out this influence; Rural management need only uphold the principles of public ownership of the means of production and distribution according to labor, which can be carried out in various forms"]

[Text] Recently, at an expanded session of Meixian's standing committee, the leading district and prefectural cadres, in discussing rural management and the implementation of distribution according to labor, mentioned the necessity of carrying out concrete analysis of the criticism and negation of "division, contract, and criterion."

During the meeting, some prefectural party committee secretaries said that since the implementation of the "five decisions and one award," it has been shown through practice that the management methods adopted by the masses were good and that the results were also very positive. Yet during one period there were contradictions in personal ideology, and not daring to summarize and expand this good experience, they only feared making "rightist" errors. One of the major reasons for this is the indiscriminate and inappropriate criticism of "division, contract, and criterion" advanced for a long time by the destructive extreme leftist line of Lin Biao and the "gang of four" during the Cultural Revolution. Its influence has been very deep, and even today it has still not been eliminated.

Many comrades at the meeting thought that without carrying out concrete analysis we could not effectively discriminate between the correct and the erroneous, that each item necessary for an effective system of responsibility would be difficult to popularize, and that there would be no means of enlivening the rural economy. Everyone looked back on the methods used to carry out "division, contract, and criterion" during the period of economic difficulties. Some areas divided the work among groups, contracted production, contracted labor, guaranteed costs to the groups, and had the "three contracts and one award" production responsibility system for surplus production while other production teams adopted the method of "criterion" for fishponds. These measures gave rise to positive work in restoring and developing the rural economy. Naturally, at that time, the division of fields to households also appeared. But these conditions were not widespread and were quickly corrected. The rashness and criticism of the so-called "division, contract, and criterion" during the Cultural Revolution not only reversed and inflated earlier problems that had been resolved, but also wiped out the effective division of work into groups and the carrying out of the "three contracts and one award" system of responsibility. This caused confusion in rural management, and even fixed amounts were not attempted.

During the conference, in order to further wipe out the negative influences of the rash criticism of "division, contract, and criterion," the members distinguished the line between right and wrong and also carried out a deep examination of what socialism is and what capitalism is. All of them thought that only by upholding the principles of public ownership of the means of production and distribution according to labor could there be diversity in rural management. At present, each locality is promoting the "five decisions and one award" responsibility system of combined output, which is actually a procedure that restores and develops the "three contracts and one award" method. It is advantageous to developing a powerful collective economy, to strengthening the public ownership of the means of production, to implementing in an overall way the policy of distribution according to labor, and to bringing enthusiasm to the socialism of the masses. All of these are appropriate management forms for developing the level of present production forces. Looking at it from the situation in Meixian Prefecture, the results of the implementation of this type of management were very notable. For example, Chengdong commune of Meixian Prefecture fervently promoted the "five decisions and one award" production responsibility system, and both earlier and later manufacture showed great increases in production. Early manufacture increased by 11.7 percent as compared to the same period of the year before last. When the "five decisions and one award" was employed in early manufacture, there was an average increase of 15.8 percent in production, whereas when it was not used the increase in production was only 5.7 percent. Later manufacture in the whole commune had an increase of 12.39 percent in production. When the "five decisions and one award" method was used, average production increased by 17.2 percent, whereas when it was not employed there was a production increase of only 5.9 percent. Results were excellent for the economic crops and side occupations of the prefecture's communes and brigades which adopted the method of contracting to households or "criterion." For example, in Songkou commune, which implemented the method of "criterion" for fishponds and contracted down to households and people, the results showed great increases in the output of pond fish, and fixed production increased by 140,000 jin compared to the year before last. It can be seen that the implementation of the "criterion" method of many production items is beneficial to promoting individual proficiency, digging out potential forces in production, and increasing the collective wealth, and that it is advantageous to the collective as well as to the individual.

After participating in the discussions, the leading district and prefectural comrades further liberated their thought, broke down the "forbidden areas," determined the basis for the right of self-determination in venerated production teams, and by adopting various effective responsibility systems further enlivened the rural economy. All agreed that in riceplant production there was a need to actively promote contracts down to the work groups, that combined output should be used to calculate the payment for labor, and that there should be surplus production awards. Production items such as sweet potatoes, peanuts, soybeans, sugarcane, fruit and vegetables--built on finding solutions to the problems of the production responsibility system and on upholding the principles of socialist collective ownership and distribution according to labor--can adopt a more flexible form, and enterprises such as fishponds may adopt the "criterion" method. Restraints on land used for soybeans can be removed and commune members can be allowed to plant on it; in contracted production whoever plants, harvests. When trees are planted in mountain areas, commune members are responsible for caring for the trees. The trees belong to the collective, and the dye plants and other economic crops belong to the individual. Unified plans can also be made for the mountain areas where small amounts of mountain land and forest are given to commune members for private use. In marginal single dwelling households, paddy rice should be contracted to households. In marginal mountain areas where production has fallen behind for a long time, special measures can be adopted to raise the enthusiasm of the commune members--provided the principles followed are not contrary to the public ownership of the means of production and distribution according to labor.

9480
CSO: 4007

BOLUO COUNTY ADOPTS MEASURES TO ENRICH PEASANTS QUICKLY

Guangzhou NANFANG RIBAO in Chinese 27 Jan 80 p 1

[Article by Li Chunshui [2621 2504 3055]: "Boluo County Adopts Measures To Enable Peasants To Become Well-to-do as Quickly as Possible"]

[Text] Recently, the Boluo County Party Committee vigorously commended a number of "outstanding" communes, brigades, production teams, and commune members who became well-to-do by hard work, and it is also prepared to adopt seven major measures to help all peasants in the county become well-to-do more quickly.

In 1979, in spite of various natural calamities, this county still increased output and income. There were a number of advanced communes and brigades which scored an overall increase in agricultural production, raised the level of distribution to a great extent, and made fairly large contributions to the state. According to initial statistics, among the 22 agricultural commune of the county, the total income of 3 communes exceeded 10 million yuan, that of 8 brigades reached or approached 1 million yuan, and that of 31 production teams exceeded 100,000 yuan; the average distribution per capita of 4 communes exceeded 150 yuan, that of 24 brigades exceeded 200 yuan, and that of 20 production teams exceeded 300 yuan. The county party committee vigorously commended these 10-million-yuan communes, million-yuan brigades, and 100,000-yuan production teams which became rich rather quickly, as well as some commune members who became rich by relying mainly on collective labor. It invited representatives of these communes, brigades, and teams to the county three-level cadre conference, asked them to come up to the platform and explain their experiences of becoming well-to-do, and called on the whole country to learn from them.

To help still more communes and brigades to get rich as quickly as possible, the county party committee conducted a careful investigation and decided to adopt the following seven measures:

1. To respect the power of decisionmaking by the production teams. When the county government assigns production plans, it will change the past practice of rigidly fixing the sown acreage of various crops and pressing the production

teams too hard; instead, it will announce output plans and state procurement tasks in order to help the production teams proceed from reality and rationally arrange production, so that each production team can utilize fully its land, mountains, and water surface.

2. To resolutely follow the principle of "to each according to his work, more reward for more work" and positively popularize the system of job responsibility related to output and of other types so that the fruit of the commune members' undertakings will be linked to their material benefits, and to try as far as possible to make everybody do his best.

3. To adjust properly the overall arrangement of production; to further change the past condition of "laying stress only on grain;" to undertake simultaneously the five enterprises of farming, forestry, stock-breeding, sidelines, and fisheries; to change the practice of "laying stress only on fir" in afforestation; to cultivate pine, fir, bamboo, fruit trees, and tung trees according to their suitability; and to promote the overall development of [the raising of] hogs, cattle, sheep, rabbits, chickens, geese, and ducks.

4. To carry out seriously the policies concerning family sideline occupations and private plots; to vigorously encourage commune members to develop family cultivation and breeding and, in places with favorable conditions, with due attention to the preservation of water and soil and to the maintenance and protection of natural ecology; to allow the production teams to make unified plans for their members to plant trees for timber or fruit on wastelands and mountain slopes, or to reclaim wilderness for the cultivation of oil-bearing crops and fodder, miscellaneous grains, and pulses.

5. The production teams will have the power to dispose of their surplus produce themselves, after the fulfillment of their tasks of state procurement and assigned purchase as well as sales under the production and marketing contracts. Production teams which have increased output and income may have more grain and money for their consumption and distribution.

6. To further implement the eight measures taken by the county party committee the year before last for the acceleration of construction in mountainous areas, so that such construction will be stepped up quickly.

7. To truly make a success of family planning and insure that in 1980 the birth rate and the natural increase of population can be maintained at 1.5 percent and 1 percent, respectively.

9039
CSO: 4007

BUMPER HARVEST OF CASSAVA CROP

Guangzhou NANFANG RIBAO in Chinese 31 Jan 80 p 1

[Article by Huang Xiangguang [7806 4382 0342]: "Last Year Our Province Harvested Nearly 2 Billion Jin of Cassava"]

[Text] Last year, various places in our province scored a bumper harvest of cassava. According to initial statistics, the whole province harvested nearly 2 billion jin of fresh cassava--over 300 million jin more than in the previous year. This was the best record ever.

Last year, these places acted seriously in the spirit of the Third Session of the Party Central Committee, introduced systems of job responsibility in various forms, and encouraged the commune members to cultivate more cassava with local favorable conditions. In the past, because of the interference of Lin Biao and the "gang of four" with their ultraleft line, large areas of barren hills and wasteland could not be put to use. Last year, with collective and unified planning, many places allowed their commune members to reclaim the wilderness and cultivate cassava. Yinde County sowed over 100,000 mu of cassava and harvested more than 324,000 dan of cassava in dried pieces--30 percent more than that in the previous year. From this item alone, they increased their income by 1.2 million yuan.

9039
CSO: 4007

GUANGDONG

GUANGDONG ROSIN OUTPUT SURPASSES 1979 TARGET

Guangzhou NANFANG RIBAO in Chinese 29 Jan 80 p 1

[Article by Tang Changning [0781 2490 1380]: "Last Year, Our Province's Rosin Output Exceeded 90,000 Dun"]

[Text] Last year, our province's rosin output reached 92,253 dun, overfulfilled the task of state procurement by 8.53 percent, and surpassed the output of 1978 by 2,124 dun.

Last year, all Shaoguan, Huiyang, Meixian, Zhaoqing, Zhanjiang and Hainan prefectures and Guangzhou municipality increased their production of rosin and fulfilled their task of production for the whole year ahead of schedule by 1 to 2 months. Among the principal producing areas, Shaoguan Prefecture increased by 16 percent, Huiyang Prefecture by 14 percent, Meixian Prefecture by 11 percent, and Zhaoqing Prefecture also increased slightly. Last year, counties such as Longchuan, Fogang, Lianshan, Huidong, Meixian, and Xinfeng all surpassed their past records of rosin output. All prefectures seriously acted in the spirit of the Third Session of the Party Central Committee, followed the party's various economic policies, adhered to the principle of "to each according to his work," negotiated with peasants the prices according to quality of rosin for sale, paid cash directly to the peasants at purchasing stations set up by factories, and thus greatly aroused the enthusiasm of the peasants in production.

Last year, 52 of the province's 61 rosin factories fulfilled or overfulfilled their production plans. All rosin factories run by the state forestry centers fulfilled their production tasks for the year also--mostly in October. In some prefectures, the rosin factories have not only increased their output but also improved the quality of their products. In such counties as Jiaoling, Zijin, Heyuan, Xinyi, and Gaozhou, as much as 80 to 90 percent of the products of rosin factories were of the special grade.

9039
CSO: 4007

RICE BREEDER DISCUSSES ACCOMPLISHMENTS

Guangzhou NANFANG RIBAO in Chinese 14 Feb 80 p 1

[Article by Chen Guo [7115 0948]: "Guangdong Rice Breeder Comments on His Work"]

[Text] On the afternoon of January 11th, the home of Huang Yaoxiang [7806 5069 4382], a rice breeding expert and deputy director of the provincial academy of agricultural sciences, was filled with joyous voices and laughter. The occasion was the visit of the cadres and commune representatives of Yanbu [7770 2975] commune of Nanhai [0589 3189] county.

For many years Yanbu commune has been one of Huang Yaoxiang's starting points for breeding and biaozheng [5903 6086] improved varieties and for leading the farmers in scientific agriculture. It has become traditional for delegates from this commune to pay respects to Huang Yaoxiang during the spring festival.

Upon entering the room everyone greeted Teacher Huang and then presented him with a three-foot high peach flower. The commune secretary Old Gu said, "We chose this especially fine peach flower from the flower garden to express our concern for our teacher. We hope that in this age of great scope for your talents your scientific research will be full of good news, as abundant as this peach flower. We all are your students and hope that you will have even more in every part of the country." With complete modesty the old expert said, "Without your support this scientific research could not have been accomplished. Wasn't it your agricultural science station that selected the materials to produce 'Guichao [2710 2600] Number 13' which was so much better than 'Guichao Number 2'? Such wonderful results of scientific research ought to be enjoyed by everyone."

The old expert was not happy only because of "Guichao Number 13" itself! He asked, "How could 'Guichao Number 13' be bred so quickly after 'Guichao Number 2'? It was because we smashed the old ways of doing things and employed the technique of breeding colonies. This breeding technique was developed by our breeding teams after long periods of trial and error. This method produces a new variety of stable hybrids in only three generations instead of the five or six generations required in the past. The appearance of 'Giuchao Number 13' is proof that the road we sought was the correct one."

While everyone was happily listening to the expert, soneone noticed the statue of a prancing horse on his table. Huang Yaoxiang pointed to the statue and said, "When I look at this I feel the great burden resting on my shoulders. This originally was given to Wu Dongjiang [0702 2639 3068], secretary of the leading party group of the Guangdong Academy of Agricultural Sciences, by Nyle C. Brady, Director of the Phillipine branch of the International Rice Research Institute, to express the wish that our agricultural research would advance as quickly as a thousand-mile-a-day horse." Old Wu had presented the horse to Huang Yaoxiang who constantly used it to motivate himself. Everyone who heard the ambitions of this aged yet red-hearted man could not help but feel great respect for him. At this time Liang Zhuo [2733 8743], leader of the Qidong [1477 2639] Brigade, a high production unit, spoke a couplet in praise of the expert, "Peach flowers blossom to joyously welcome spring, Thousand-mile-a-day horses rapidly pursue science," and immediately the whole room was filled with shouts of praise.

11582
CSO: 4007

DEVELOPMENT OF FRESH WATER FISHERIES URGED

Guangzhou NANFANG RIBAO in Chinese 20 Jan 80 p 2

[Article by Zhong Lin [6945 7792] of the Zhujiang River Aquatic Products Institute: "Guangdong Province To Accelerate the Development of Fresh Water Fisheries"]

[Text] Our province has very favorable conditions for the development of fresh water pisciculture, such as warm climate, plentiful rainfall, extensive water surface, many species of fish, rich supplies of green feed, and the people's good experience in fish culture. Moreover, our province is close to Hong Kong and Macao, with great facilities for export. The prospects of development are very broad.

However, at present our development of fresh water fisheries is very slow, with output per unit varying widely. The highest yield per mu may exceed 2,000 jin, but the lowest is only a little over 100 jin. The main cause of this slow progress was the interference and sabotage by the ultraleft line of Lin Biao and the "gang of four," with the result that some leading persons did not pay serious attention to the development of fresh water fisheries, investments and the supply of the means of production were not assured, and certain policies were not quite rational. For instance, the pricing of state purchase of fishery products was too low (it has recently been readjusted), but the selling prices of articles required for fishery production were too high, the articles were not supplied promptly, and too few kinds of feed were on sale or given as rewards. The question of fish feed and manure also was not settled properly.

How can we accelerate the development of fresh water pisciculture in our province? My opinion is as follows:

1. Lay stress on some 570,000 mu of ponds in the Zhujiang Delta and quickly raise their area yield per unit. Here, superior conditions are rare not only in our country but also in the world. The present average yield per mu is only 370 market jin. The potential is very great. Only by taking suitable measures will output increase quickly. If the yield of each mu increases by 100 jin, the total increase for 1 year will be over 28,000 tons, greatly exceeding the total amount of pond fish supplied to Guangzhou at present. The

measures for increasing production should be to futher implement the pricing policy, mainly by rationally readjusting the purchase prices of pond fish and the selling prices of fishery necessities; to give as reward and to sell more feed containing protein, such as beancake and peanut bran; and to give low-yielding communes and brigades, which at present can neither receive as reward nor buy feed, and the majority of fry-breeding grounds proper consideration for feed and manure to facilitate production. Furthermore, about one-half of fish ponds in the Zhujiang Delta are below the high yield standard, which should be changed gradually with funds from appropriate loans. All communes and brigades should set up their system of responsibility for production on "three fixes and one reward" in order to fully arouse the enthusiasm of commune members for pisciculture.

2. Devote major efforts to develop fish keeping in communes and brigades. At present, besides the ponds in the Zhujiang Delta, there are some 500,000 mu of ponds scattered over the countryside of our province, varying widely in output. As these ponds are scattered, it is easy to get feed and manure. The prinicpal measure for raising the per-unit area fishery output should be to provide fine fry of major specifications to give the necessary technical guidance, and also to reform the low-yielding ponds. At the same time, it is necessary to fully utilize the large number of swamps and small creeks. This is an effective way of developing the enterprise of pisciculture among communes and brigades in our province with greater, faster, better, and,more economical results.

3. Accelerate the establishment of export bases for valuable aquatic products. It is necessary to establish export bases as quickly as possible in counties and municipalities close to Hong Kong--such as Zhuhai, Shenzhen, and Zhongshan--and breed valuable aquatic products such as prawn, Nile carp, grass carp, bream, mandarin fish, Wuchang fish, and fresh water goby. We must not only supply large quantities of aquatic products to markets in Hong Kong and Macao but also export them abroad to gain still more foreign exchange.

4. Fully utilize the tropical climate of Hainan Island for the development of pisciculture. As the temperature of water remains between 27 and 30 degrees centrigrade all year round in tropical regions, there is an abundance of living things for feed, to the advantage of the growth of the four major domestic fish in our country. According to reports, in the tropics a bream may weigh up to 20 market jin after 20 months, growing more rapidly than in any other province of our country. Therefore, we can develop fisheries on Hainan Island by building fishponds on low-lying swampy lands and in suitable locations where irrigation canals flow through. This will greatly increase the fishery output of our province.

9039
CSO: 4007

GUANGDONG PROMOTES CATTLE RAISING INDUSTRY

Zhanjiang Prefecture Sets New Record

Guangzhou NANFANG RIBAO in Chinese 19 Feb 80 p 1

[Text] Zhanjiang [3277 3068] prefecture has broken a continuous 22 year period of stagnation in the cattle raising industry. Last year, the prefecture's cattle on hand reached a total of 923,000 head, over 21,000 head more than in 1978, and 5,000 head more than in the previous record year 1956.

Zhanjiang prefecture, which is located in hilly land with abundant water and grass and broad pastures, had a total of 918,000 head of cattle in 1956. In the following 20 years, however, especially during the period when Lin Biao and the "gang of four" ran rampant, there was a dramatic decline in cattle raising, with only 899,000 head of cattle raised in 1976. In the winter of 1978 Zhanjiang prefecture promoted cattle raising to the same level of importance as hog raising. All locales sincerely implemented the policy of developing collective cattle raising, restored the farm cattle management system, and aided the brigades in starting some cattle raising farms.

While encouraging the development of collective cattle raising, all prefectural and county leadership levels strongly encouraged and supported individual commune menbers to raise cattle. As long ago as October of 1978 the county committees of Haikang [3189 1660] and Wuchuan [0702 1556] counties gave permission to commune households to raise cattle. The Haikang, Wuchuan, Huazhou [0553 1558] and Xuwen [1776 5113] county committees and the Zhanjiang municipal and suburban committees sincerely undertook to handle the problems left over from past campaigns, redress the punishments meted out to individuals in the past for raising cattle and compensated those cattle-owners whose cattle were confiscated during the "tail cutting" period." Many cadres took the lead in raising cattle, which stimulated the commune members to vigorously engage in cattle raising. At present, individuals in the prefecture are raising over 30,000 head of cattle.

Three-Level Cattle Farms

Guangzhou NANFANG RIBAO in Chinese 19 Feb 80 p 1

[Text] Dasha [1129 3097] commune of Sihui [0934 2585] county has started three level (commune, brigade and production team) cattle farms to actively develop commercial cattle production. Last year the three levels of the commune started up 77 cattle farms and raised a total of 3,757 cattle. In the last year they have provided the market with 2,436 head of commercial cattle. After deducting costs, this produced a net profit of 365,400 yuan. They also obtained over 520,000 dan of organic manure. All of this helped to aid agricultural production, strengthen the collective economy and increase the market supply of meat.

Dasha commune has over 20,000 mu of land suitable for grazing. There are excellent conditions for developing commercial cattle. A portion of the funding was allocated from commune enterprises, and this together with loans negotiated from supply and marketing, bank and foreign trade departments totaled over 200,000 yuan available to aid the three levels operate cattle raising farms. At the same time measures were taken to protect the pasture resources to ensure that the herds will have sufficient grass for grazing.

Average 3.2 Cattle Per Household

Guangzhou NANFANG RIBAO in Chinese 19 Feb 80 p 1

[Text] Yangmeiping [3152 2734 0988] brigade, located in the Nanshan [0589 1472] commune in Jiexi [2263 6007] county has actively developed the cattle raising industry. Last year the 32 households in the brigade raised 102 head of cattle, an average of 3.2 head per household. During the year they sold 23 head of cattle for 10,250 yuan, yielding an average income of 320.3 yuan per household and 42.7 yuan per person.

Last year, in order to restore progress in the cattle raising enterprise, Yangmeiping brigade set aside special pasturage, prohibited unplanned land reclamation and protected the good grassland resources. Moreover, they ruled that cattle raising households which produced calves would be rewarded. After sale of the publicaly owned, privately raised cattle, the collective proportionally divided up the income among the commune members. The implementation of this policy positively stimulated the commune members to carefully raise cattle. Last year, 29 of the brigade's 32 households raised cattle.

11582
CSO: 4007

NANFANG COMMENTATOR URGES ALL OUT PROPAGATION OF AQUATIC PRODUCTS

Guangzhou NANFANG RIBAO in Chinese 2 Feb 80 p 1

[Text] The main path to increasing future aquatic production is to diligently develop the propagation of freshwater and seawater aquatic products. We must carry out thoroughly the policies and measures of the Third Plenary Session of the CCP Central Committee, mobilize the enthusiasm of the broad masses of fishermen and peasants and urge all out breeding of aquatic products. This has a very important bearing on improving the meat supply to markets, gradually improving the diet of the people, earning foreign exchange via export, supporting the four modernizations, strengthening the collective economy and increasing the income of the peasants.

Our province has rich aquatic resources, uniquely endowed with the potential to develop freshwater and seawater propagation of aquatic products. Along the long seacoast, more than 20 kinds of fish, shrimp, shellfish and algae can be produced. In the widespread inland water areas, 40 to 50 fish species propagate and flourish and generally the fishermen and peasants have abundant propagation experience. But, mainly due to the interference and destruction by the ultraleft line of Lin Biao and the "gang of four," plus certain mistakes in our work, even to the extent of frequently violating the natural and economic laws, propagation of aquatic products for a long time was backward and stagnate. After the destruction of the "gang of four," and especially since the Third Plenary Session, every place criticized the ultraleft line, corrected to different degrees the tendency of "taking grain as the only thing" and abandoning fishing and within the fishing industry, corrected the tendency of "emphasizing catching" and deemphasizing the raising of aquatic products. Thus the propagation of aquatic products has gradually resumed. But the slow rate of recovery and development fell far short of satisfying the needs of the state and the people. At present, there are more than 5.7 million mu of usuable water area and shallow beaches for the propagation of aquatic products, one third of which has not been utilized. Even the utilized water surfaces vary widely in their unit area production, ranging from a high output of more than 1,000 jin of pond fish to a low of only more than 100 jin. Now is the time to develop fully the potential for the propagation of freshwater and seawater products, thereby increasing greatly the production of aquatic products.

In order to do a good job in propagating aquatic products, the key is to eradicate continuously the pernicious influence of the ultraleft line of Lin Biao and the "gang of four" and thoroughly carry out each stipulation of the Central Committee's and the provincial committee's policies concerning the fishing industry. As for implementing current, effective policies, unswervingly and continuously carry out such policies as fixing for 3 years the quantity assigned to be purchased by the state and the amount to be delivered to the state by the commodity fish bases, allowed aquatic products outside the plan to be traded in rural markets, uniformly exempt from procurement [quotas] pond fish and riverine aquatic products from noncommodity fish bases and exempt for 5 years newly developed aquatic products from seawater cultivated by communes and brigades. No matter whether it is a state or collective-run breeding farm, all must gradually implement the policy of distribution according to work and more for more work, actively popularize the production responsibility system based on combined output or other forms and implement rewards for excess production. Production teams can use their scattered fish ponds to raise fish for the commune members and can sanction reasonable awards for exceeding production which benefits both the collective and the individual commune members. Commune members may be allowed to raise fish in unutilized, scattered water areas for their own production, use and selling. In this way the development of production can be closely combined with the collective benefits of the production team and be closely linked with the individual benefits of the laborer.

Propagation of aquatic products is a big undertaking that requires developing a spirit of building an enterprise through arduous effort and primarily depending on collective labor accumulation while at the same time receiving necessary assistance from the state to expand progressively each basic construction and solve the difficulty of insufficient capital. Because of this year's limited amount of capital for investment by the state and limited amount of provincial and local funds for use in the aquatic propagation industry, only priority construction of new breeding bases can be supported. Therefore, a certain amount of capital to support the propagation of aquatic products must be allocated from prefectural and county local funds and the agricultural bank should loan money to communes and brigades which have encountered difficulty. In addition, the Central Committee has approved our province's implementation of special policies and flexible measures toward foreign economic activities and the provincial committee has already approved a deduction of a percentage from the foreign exchange earned from marine products and approved the duty-free importation of goods and materials needed for fishing. Thus, all these are advantages for developing the propagation of aquatic products. On the premise of relying on one's own efforts and braving hard and bitter struggles, we must, according to party policy, actively attract foreign capital, develop compensatory trade and expand export income in order to promote the development of the breeding industry.

Science is a force of production. A rather big breakthrough in the breeding and production of aquatic products necessitates a rather big breakthrough in scientific research. Practice in developing propagation of aquatic products in our province has already repeatedly proven the importance of raising fish scientifically. The success and the popularization in the artificial propagation of domestic fish is an outstanding example. Now we must summarize our experience, and continue our advance. On the basis of doing well the purification and rejuvenation of existing fine fish species, we must actively introduce fine foreign aquatic species to realize breeding improvements. At the same time, we have to grasp the research and production of synthetic concentrated feed, and expand the sources for feed. It is necessary to organize forces to quickly solve the problems in the artificial raising of shrimp, and Chanos chanos, (Forskal) and the artificial incubation of mullet and actively develop the experimental work in propagating precious aquatic products. In order to strengthen the technological force in propagating aquatic products, it is necessary to establish and strengthen the prefectural institute of aquatic products and technical guidance stations in key countries, organize scientific technological personnel to return to the production teams, firmly grasp the technical training of technicians and contingents of specialized workers, and develop scientific experimental activities of a mass nature, in order to popularize and raise the production skills and level of the scientific management. Right now, it is necessary to emphasize the further implementation of the policy toward intellectuals, encourage innovations by giving awards, and fully mobilize the enthusiasm of the broad scientific and technical personnel in order that they will contribute their intelligence and wisdom to developing the aquatic propagation industry in our province.

The recently held conference on aquatic production work in our province emphatically researched the problems of accelerating the development of the aquatic propagation industry and suggested corresponding measures. We hope that everyone fully utilizes our province's excellent natural conditions, quickens the pace of propagating aquatic products and exerts oneself in the struggle to build our province into a land of fish and rice worthy of the name.

9515-R
CSO: 4007

FOSHAN CHEMICAL FERTILIZER INDUSTRY INCREASES PRODUCTION

Guangzhou NANFANG RIBAO in Chinese 4 Feb 80 p 2

[Article by Xiu Jindan [6079 6855 0030] and Kuang Guofu [4349 0948 1381]]

[Text] The chemical fertilizer industry in Foshan Prefecture conscientiously did a good job in increasing production by reorganization and restructuring. Last year's prefectural production of nitrogen fertilizer and phosphate fertilizer was increased and quality was improved. There was also a significant decrease in production costs and in consumption of raw materials and fuel. A historical high point was reached.

In the past few years, small nitrogen fertilizer [plants] in this prefecture have developed rather fast. The 13 cities and counties throughout the prefecture all have small nitrogen fertilizer plants which have a definite role in supporting agricultural production. But due to existing problems in resources and technological conditions, production in many plants did not do well. At the beginning of last year, after having widely listened to the opinions of the cadres and the masses, leaders at all levels in the fertilizer industry of this prefecture decided to carry out a readjustment of the fertilizer industry. Thus, the two nitrogen fertilizer plants in Foshan Municipality and Zhuhai [County] which lacked transportation facilities and had a serious shortage of raw materials were closed, the schedule for putting the three nitrogen fertilizer plants in Shunde, Gaohe, Zhongshan [counties] into operation was delayed, and electricity, raw materials and fuel were pooled to guarantee sufficient support to those enterprises that had excellent potential, high production and low fuel consumption, in order to bring into play the production capacity of modern enterprises. As a result, the total production of the synthetic ammonia in the small nitrogen fertilizer plants throughout the prefecture last year increased by 1.3 percent over the previous year. Consumption of the two coals [coal used as raw material and coal used as fuel] per ton of ammonia was 2,613 jin, approximately 200 jin less than the previous year, and consumption of electricity per ton of ammonia also decreased by 3.2 percent.

During the process of readjustment and reorganization, they had adopted the method of producing while readjusting to help those enterprises that had confused management, large fuel consumption and high production costs to improve management and administration and tap new resources, in order to improve those enterprises in a short time. The Gaohe County Nitrogen Fertilizer Plant had the highest coal consumption among all the fertilizer plants in this prefecture. After the prefecture and the county had sent out a working group to help the leading group of this plant strengthen the enterprise's management and develop technological innovations, the consumption of the two coals per ton of ammonia decreased, approaching the advanced national standard. Eight small phosphate fertilizer plants in this prefecture suffered a chronic raw material shortage. Several had over stock problems due to lowered product quality. After the readjustment, there was a definite change in the enterprises; last year the annual production plan was exceeded.

9515-R
CSO: 4007

GUANGDONG

HAINAN CADRES FIGHT DROUGHT, ENGAGE IN SPRING FARMING

Guangzhou NANFANG RIBAO in Chinese 30 Jan 80 p 1

[Article by Feng Erzhen [7458 1422 2182]: "A Large Number of Cadres From Hainan District Go to the Countryside To Fight Drought and Undertake Spring Farming"]

[Text] Recently, the counties of Hainan District transferred 1,127 cadres to form spring farming workteams under the leadership of 115 leading cadres, including secretaries and standing committee members of county party committees. They were to go separately to 129 communes and, together with the broad commune cadres and members, to fight drought and engage in spring farming, striving to win a bumper harvest of early rice.

When these workteams arrived in the rural villages, they earnestly implemented various economic policies of the party toward the rural areas and respected the decisionmaking power of the production teams. At the same time, they conducted a careful investigation and study, and helped the production teams to solve practical problems in the work of spring farming. In the previous period, serious problems of dividing up the fields for individual farming occurred in a few production teams of some of the counties, and this interfered with the normal progress of the work of spring farming. After their arrival in the villages, the workteams helped solve this problem. The Chengmai County workteams went to 28 brigades with this serious problem, grasped production on the one hand and, on the other hand, together with the brigade cadres and members, studied related documents of the central authorities and instructions from higher levels, linked this study with actual conditions, drew a clear line of demarcation between the responsibility system linked with output and the practice of dividing up fields and doing it alone, and helped all people enhance their consciousness, correct their mistakes of pursuing individual farming, and set up systems of job responsibility in various ways. They carried out the policy of "to each according to his work," so that the work of spring farming was conducted not only vigorously but also in a down-to-earth manner.

This year, spring drought came early to all places of Hainan District and went on for a long time, and the water level in all the reservoirs was much lower than last year. When the workteams from all the counties went to the countryside, they together with the commune party committee members, mobilized the commune members to close off the rivers and block up the creeks, to lead the water into reservoirs, and to persist in fighting the drought for spring plowing. This year, in Xianlai Commune of Qiongshan County, there were 8,000 mu of early rice, of which more than 4,000 mu had no water for transplanting. The country workteams and the commune party committee mobilized 1,500 people to attend to the worksites, sealed off rivers and blocked up creeks at nine locations, dug and repaired seven new and old canals, and installed seven pumping stations, so that the commune had water to irrigate more than 90 percent of the early rice acreage. For the remaining few hundred mu of rice, they sank wells to get water for irrigation. According to incomplete statistics, up to 16 January the whole district had transplanted seedlings on 123,000 mu of fields, and the rice sprouts were growing fine.

9039
CSO: 4007

'XINHUA' DESCRIBES RESOURCES ON HAINAN ISLAND

OW281254 Beijing XINHUA in English 1212 GMT 28 Mar 80 OW

[Report: "A Glimpse of a Virgin Forest on Hainan Island"]

[Text] Guangzhou, 28 Mar (XINHUA)--A tropical forest on Hainan Island, a nature reservation 300 kilometres from the city of Haikou, capital of the island, has aroused keen interest for its great economic and research value and its many mysteries.

Situated on the Jianfeng (Pointed Peak) range, a branch of Wuzhi (Five Finger) Mountain, the nature reserve is 1,396 metres above sea level and covers 1,635 hectares, or 3.6 per cent of the total forest area of the Jianfeng range.

This almost untouched primitive forest has one-fifth of the tree species in China, a country with 95 per cent of the world's woody plant families (angiosperm).

Tall arbor trees of some 1,100 varieties can be found on the island and 206 are precious tree species for timber. Most of them can be found in the dense forest on the Jianfeng range. Because of their hardness and good quality, they are good for shipbuilding, high-quality buildings, fine furniture, interior decorations and special art and craft works.

Among them, the reddish hard wood of the Dalbergia odorifera, with a cloud-like grain, is very durable and has a lasting aromatic smell. The wood of the Madhuca hainanensis, which does not rot in water even for a thousand years, is even harder than iron and steel. Nails will bend when they are driven at the wood, and the wood cannot even be dented.

Besides rich timber wood, there are many kinds of oil plants and nearly a thousand kinds of medicinal plants. For instance, a kind of medicine separated and purified from the Cephulotaxus hainanensis, a tall arbor tree, gets good results in treating both acute and chronic leukaemia. A precious medicine which reduces pain and phlegm, is manufactured from the trunk secretions of a tree called Aquilaris sinensis, which can be found in the forest area. Glossy ganoderma, a supposedly magic herb, grows almost everywhere in this nature reserve during the rainy season.

There are also various kinds of strange flowers and fancy trees in the forest. Some of the flowers blossom and bear fruit right on the tree trunk. A kind of orchid with dozens of colours vying with each other at the crowns of trees forms a beautiful garden in the air.

CSO: 4020

BRIEFS

HAINAN AFFORESTATION--On 12 March, 10,000 office cadres and PLA commanders and fighters of the PLA units stationed in Haikou took part in afforestation. Also taking part were Luo Tian, Wei Nanjin, (Zhao Guangzhi), (Pan Chuxiong), (Wei Fegang), (Wang Baitian), (Chen Yan), (Li Liangguang), (Chen Gegong), (Wang Dafang), (Zhang Liangping), (Lu Hongfeng), (Liu Tingqian), (Wang Guoxin), (Chen Falan) and (Lin Xuemei), leading comrades of the party, government and army in Hainan and Haikou. [Haikou Hainan Island Service in Mandarin 0330 GMT 13 Mar 80 HK]

GUANGZHOU AFFORESTATION RALLY--On 10 March the people in Guangzhou held a rally at the hall of the municipal CCP committee to cite the progressives in afforestation. Attending the rally were 800 persons including Wang De, Liang Xiang, Lin Xi and Li Hui, responsible comrades of the party, government and army of the province and municipality. Liang Xiang spoke. He urged that plans for afforestation be made on capital construction projects under construction. Units which have already planted trees must strengthen management to strictly curb unscrupulous lumbering. It is also necessary to effectively cite good people and deeds. The participants made plans on afforestation for this year. [Guangzhou Guangdong Provincial Service in Mandarin 2330 GMT 11 Mar 80 HK]

GUANGZHOU SPRING SOWING--This year, the farming season is earlier than previous years. The countryside of Guangzhou is now in the busy season of spring plowing and sowing. At present, 80 percent of the early rice has been sown. There was more hybrid rice sown this year than last year. At the same time, 390,000 mu of other spring crops including sugarcane, peanuts, soybean, sweet potatoes and alfalfa have also been sown. This year around "Severe Cold" [21 January], a cold climate prevailed over a long period, causing a loss of 2 million jin of rice seed strains. On the eve of the Spring Festival, the climate became warm again. [Guangzhou City Service in Cantonese 0430 GMT 13 Mar 80 HK]

CSO: 4007

BRIEFS

BAISE PREFECTURE SPRING FARMING--By 15 March, the people in Baise Prefecture have sown 20.7 million jin of early rice seed strains, accounting for 90 percent of the quantity that should be sown. They have also planted 679,900 mu of sweet corn and green corn. In 1979, the people in this prefecture reaped a bumper harvest of grain. Before the Spring Festival, the prefectural CCP committee held a conference of the secretaries of the county CCP committees to organize 3,000 cadres from the prefecture, counties and communes to go deep into the first line of spring farming to guide production. At present, 7,076 tons of chemical fertilizer have been delivered to the first line of spring farming, insuring the use of fertilizer in transplanting early rice all over the prefecture. [Nanning Guangxi Regional Service in Mandarin 1130 GMT 19 Mar 80 HK]

CSO: 4007

BRIEFS

DROUGHT RESISTANCE--From 7 to 11 March rain and snow fell in Hebei, increasing the moisture of the soil which had been dry for a long time and slowing down the drought situation. This is very favorable for wheat growing and the current preparations for spring farming. At present, the weather is fine, the temperature is at the normal level for the time of year. It is, therefore, necessary to firmly grasp the opportune moment and steadily apply additional manure to the wheat fields. The leading cadres at all levels must go deep into the first line of resisting drought and win an all-round victory in resisting drought and insuring summer harvests and spring sowing. [Shijiazhuang Hebei Provincial Service in Mandarin 0430 GMT 15 Mar 80 HK]

CSO: 4007

SURVEY OF NATURAL RESOURCES ON SANJIANG PLAIN

Beijing GUANGMING RIBAO in Chinese 25 Jan 80 p 1

[Excerpt] From September to December of 1979, more than 1,000 comrades in various departments cooperated with 220 technicians in Heilongjiang Province to conduct scientific and technical research on the agricultural resources of the Sanjiang Plain. Results from this survey will provide a scientific basis for rational development and management of the Sanjiang Plain. Comprehenisve survey reports are being compiled by the staff. Agricultural regions in the Sanjiang Plain are being demarcated, and an overall management plan is being devised.

The survey is based on the work of 22 specialized work groups in charge of climate, soils, topography, vegetation, land resources, drainage, fluvial geology, water conservation, reed coverage, humus, crop growth, animal husbandry, afforestation, fisheries, animal habitat, agricultural mechanization, transportation, electricity, settlement, rural energy resources, and environmental protection respectively. The Sanjiang Plain is a rare piece of fertile lowland in our country. It possesses ten valuable resources, namely, general levelness, extensive arable land, extensive grassland, rich soils, long duration of sunshine, abundant rainfall, plentiful runoff, forests, pastures, and reeds. Based on the survey, the Sanjiang Plain has an area of 150 mu, of which lowland makes up over 60 percent. The soils are potentially very rich. Its chernozem (black earth) is 20 millimeters thick on the average, exceeding a meter in some places. Its organic, colloidal material comprises 5 to 6 percent of the top soil, and in some places more than 10 percent. The lowland is well drained by surface streams and underground water. The Songhua, the Wusuli, and the Heilongjiang rivers drain the lowland. In addition, there are more than 22 major tributaries and streams in the region. Lakes such as the Xingkai, and the numerous reservoirs and rivers cover 10 million mu of its land surface, and more than 1.5 million mu is conducive to fish farming. Furthermore, extensive marshes abound. The Sanjiang Plain receives plenty of railfall. The average is around 550 centimeters, 70 percent of which is concentrated in the growing season. The region has 37 million mu of forests, and the rate of reafforestation is 24 percent. More than 8 million mu of land can easily be afforested. The area under reeds is 1.52 million mu, containing rich reserves of 400,000 tons. The region has great potential in animal husbandry, as high quality and high yield grass abounds. Wasteland occupies an area of 3.3 million mu, its levelness offers advantages for mechanized farming. Among the wild animals indigenous to this area are the northeast tiger, the red-headed crane, the purple sable, and the piebald deer. The duration of sunshine is long in this region, varying between 2,300 to 2,600 hours a year. The duration of sunshine during the growing season ranges from 1,000 to 1,200 hours. Effective accumulated heat stays at 2,400 to 2,500 degrees. All of the above factors greatly favor comprehensive development of agriculture, animal husbandry, forestry, fisheries, and rural subsidiary industries in the Sanjiang Plain.

In tackling the difficulties which confront the utilization of the ten major resources of the Sanjiang Plain, the technicians and workers participating in the survey offered suggestions on methods by which rational development and management of the Sanjiang Plain should be carried out.

9471
CSO: 4007

HEILONGJIANG

BRIEFS

STATE FARM PLANTING--The various state farms in Heilongjiang Province will plant wheat on 13.52 million mu of land this year, accounting for over 52 percent of the total arable land of state farms in the province. The sowing of wheat started on 21 March. [OW301341 Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 29 Mar 80 OW]

AGRICULTURAL DEVELOPMENT--Heilongjiang Province has decided to develop the productions of soybeans, minor oil-bearing crops, rice and vegetables to insure proper proportion of farm crops. In the past, the province put too much emphasis on the production of corn. The province has designated 30 counties as soybean production bases, 25 counties as rice production bases, [number indistinct] counties as minor oil-bearing crops production bases and the suburban areas of 11 municipalities as vegetable production bases. In 1980 rice area in the province will increase by 1.16 million mu while minor oil-bearing crops area will increase by 1.37 million mu as compared with 1979, according to the development plan. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 17 Mar 80 OW]

WEATHER FORECASTING IMPROVEMENT--Heilongjiang's meteorological workers are striving to improve their meteorological forecasting service in an effort to help combat spring drought and facilitate spring farming. Recently the provincial meteorological bureau has on two occasions assembled the leading weathermen of various weather stations throughout the province to analyze and study the special characteristics of weather this spring and maintained there will be no significant rainfall and snowfall in most parts of the province and that drought will still be serious until late May. The provincial meteorological bureau urged weather stations in various places to keep a close watch of the weather changes and make timely and accurate forecasts of little snowfall and rainfall before the wheat sowing period, so that sowing can be completed before rainfall and snowfall. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 21 Mar 80 OW]

GENERAL LAND SURVEY--In the past 5 years, the Heilongjiang Provincial Land Reclamation General Bureau has conducted a general soil survey at subordinate and livestock farms, thus setting a good foundation for further accelerating their scientific farming and modernization building. The total areas surveyed reach more than 150 million mu, including some 30 million mu of farmland. [Harbin Heilongjiang Provincial Service in Mandarin 1100 GMT 27 Mar 80 OW]

CSO: 4007

BRIEFS

RAINFALL MEASURED--Since March 1980, there was rainfall on two occasions. During the rainfall between 2 and 5 March, rains in the south were comparatively heavier. Between 7 and 10 March, rain and snow fell throughout the province. In Xinyang Prefecture, rain and snow reached 30 to 40 mm, while in Zhumadian Prefecture and east of Nanyang Prefecture, it reached 20 to 30 mm and in Xuchang, Zhoukou and Shangqiu prefectures, it reached 11 to 19 mm. In Kaifeng and Luoyang prefectures and west of Nanyang Prefecture, it reached 10 mm and in Xinxiang and Anyang prefectures, it was between 5 and 20 mm. [Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 13 Mar 80 HK]

WUZHI COUNTY COTTON--The Wuzhi County Revolutionary Committee has signed contracts with 10 cotton-producing communes in the county for the production of cotton in 1980, pushing forward preparations for sowing cotton. The county revolutionary committee recently held a conference to sum up experiences in cotton production. The contracts for producing cotton indicate that the county revolutionary committee will pay deposits to the production teams which are responsible for producing cotton to insure rewards of chemical fertilizer for their cotton. The communes will insure the fulfillment of the production of cotton. These communes have also signed similar contracts with the brigades and production teams that produce cotton. At present, the sowing of the 57,800 mu of cotton has been assigned to communes and brigades, while 39,200 mu of cotton has received ample base manure. [Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 23 Mar 80 HK]

COTTON SOWING--Zhengzhou, 20 Mar--Preparations for cotton sowing are now being stepped up in the rural areas of Henan Province. Since last winter, this province has procured some 30 million jin of fine seeds. Of the 9 million of cotton fields in the province, winter plowing has been completed on some 8.5 million mu and winter application of fertilizers completed on some 3.54 million mu of cotton fields. The province has also prepared some 3 million jin of plastic sheeting and some 3.56 million cubic meters of fertile soil to promote cotton production. [Beijing XINHUA Domestic Service in Chinese 0200 GMT 20 Mar 80 OW]

AGRICULTURE CONFERENCE--From 27 to 29 February, the Henan Agricultural Committee and the Henan Agricultural Natural Resources Investigation and Agricultural Zoning Committee held a work conference in Zhengzhou. The participants summed up and exchanged their experiences in the past year in agricultural natural resources investigation and zoning and studied and made plans for 1980. [Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 13 Mar 80 HK]

'HENAN RIBAO' ON AGRICULTURE--A HENAN RIBAO editorial points out that creating an upsurge of spring production with wheat-tending as the center is the pressing obligation on the agricultural front and the central task that precedes everything. The editorial reveals that wheat accounts for 50 percent of the total output of grain in the province. However, the drought situation is worsening, and the growth of wheat in some areas is not as good as in previous years. It is necessary to transfer a large number of cadres to the countryside to augment and strengthen the leadership force at the basic-level units. The party committees at all levels must pay very serious attention to science, implement the policy on intellectuals and effectively popularize scientific knowledge. [HK010458 Zhengzhou Henan Provincial Service in Mandarin 1130 GMT 22 Feb 80 HK]

CSO: 4007

HIGH YIELD WHEAT CULTIVATED IN XIANGYANG PREFECTURE

Huanggang HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 10, 5 Oct 79 pp 7-10

[Article by Gong Yonrui [7895 2589 6904] and Lei Guansen [7191 1351 2773] of the Xiangyang County Bureau of Agriculture: "A Survey of the Techniques of Cultivation of High Yield Wheat in Xiangyang Prefecture"]

[Text] Wheat is one of the major food grain crops in Xiangyang Prefecture. In ordinary years, the planting area covers about 4.5 million mu, about 40 percent of the area of food grain crops for the entire year. In recent years, as the conditions of production and the level of scientific planting continuously improved and rose, the unit yield and total yield of wheat have increased visibly. This year, the entire prefecture's 48.14 million mu of wheat averaged a unit yield of 326 jin and total yield was over 1.57 billion jin. Both the unit yield and total yield surpassed the highest levels of the past. At the same time, a group of counties also produced a yield of over 400 jin per mu, some communes produced a yield of over 500 jin per mu, some brigades produced a yield of over 600 jin per mu, some production teams produced over 700 jin per mu and some high yielding fields produced over 800 jin per mu. To determine the pattern of high yield of wheat and the techniques of cultivation and to further raise the yield of wheat, we conducted some surveys of high yielding fields that produced over 800 jin per mu. The surveys are prepared and compiled as follows for reference.

I. Factors Constituting the Yield and Dynamic Structure of the Colonies

1. Factors constituting the yield: The number of spikes, the number of grains and the weight of the grains were the factors constituting the yield of wheat. The amount of yield of wheat is determined by the degree of coordinated development of these three factors. Among these three factors, the number of spikes was the leading factor and affected the number of grains and the weight of grains visibly. When the number of spikes is insufficient, the effect upon the yield of an insufficient number of spikes cannot be offset even by a higher number of grains and a higher weight of thousand grains. Too many spikes will often lead to

a reduced number of grains on the spikes and a drop in the thousand grain weight or cause lodging and a reduction in yield. Therefore, fully coordinating the relationship among the number of spikes, the number of grains and the thousand grain weight is the central link in achieving high yields of wheat. Actual high yields in various localities in our prefecture indicate that at places with medium or above soil fertility and levels of fertilization, a more appropriate structure to produce a per mu yield of over 800 jin using vernal semiwinter varieties of large spike and large grain types is: 330,000-380,000 spikes per mu, 35-40 grains per spike and a thousand grain weight of 35-40 grams (Table 1).

Table 1. Structure of Yields of Over 800 Jin of Wheat

(1) 调查单位	(2) 品种	(3) 地块数	(4) 面积 (亩)	(5) 穗数（万/亩）		(6) 穗粒数		(7) 千粒重（克）		(8) 平均产量
				(9) 变动范围	(10) 平均	(11) 变动范围	(12) 平均	(13) 变动范围	(14) 平均	（斤/亩）
(15) 襄阳县农业局	(16) 襄麦5号	1	2.7	—	30.9	—	45.2	—	38.9	1.032
	(17) 襄麦6号	4	4.6	28—41	33.0	40—46	43.3	33—38	34.9	859
	(18) 襄麦7号	1	0.9	—	39.5	—	38.9	—	39.1	969
	(19) 宜宾1号	3	81.5	28—33	31.3	37—39	38.2	37—41	38.7	851
	7023	1	25.0	—	32.1	—	35.7	—	39.3	811
	(20) 郑州741	2	4.2	33—37	35.7	39—42	40.7	38.9—39.0	38.9	936
(21) 襄樊市农业局	(22) 郑引1号	5	16.6	30—34	33.0	36—44	39.7	35—37	35.4	819
	(23) 襄麦5号	3	26.8	32—34	33.3	35—40	37.0	34—39	38.4	812
	(24) 庞新3号	1	1.0	—	31.2	—	32.8	—	43.3	857
	(25) 阿勉麦	1	1.0	—	31.9	—	34.6	—	36.2	820
(26) 随县农业局	7023	3	7.5	28—42	30.1	28—41	33.4	39—44	41.8	839
	(27) 宜宾1号	3	6.4	28—40	32.6	33—40	37.5	40—44	41.6	838
	(28) 襄麦5号	2	9.0	27—30	28.5	—	38.1	38—41	39.6	873

Remark: Average yield of Suixian is estimated, but figures for Xiangyang County and Xiangfan City are actual yields. Same in Table 2.

Key:

1. Surveying unit
2. Varieties
3. Number of plots of land
4. Area (mu)
5. Number of spikes (10,000/mu)
6. Number of grains on spikes
7. Thousand grain weight (gram)
8. Average yield (jin/mu)
9. Range of variation
10. Average
11. Range of variation
12. Average
13. Range of variation
14. Average
15. Xiangyang County Bureau of Agriculture
16. Xiangmai No 5
17. Xiangmai No 6
18. Xiangmai No 7
19. Yibing No 1
20. Chengzhou 741
21. Xiangfan City Bureau of Agriculture
22. Chengyin No 1
23. Xiangmai No 5
24. Pangxin No 3
25. Hedimai
26. Suixian Bureau of Agriculture
27. Yibing No 1
28. Xiangmai No 5

2. Dynamic structure of the colonies: Formation of a high yielding structure is the result of coordinated development between the individual plant and the colony. Individual plants and the colony constitute a unity of opposites. When the individual plant does not develop well, when the individual plants are small and weak or when their numbers are insufficient, the development of the colony is limited, the ground and spacial vegetative areas are not fully utilized, and thus high yields cannot be realized. This is the case in all low yielding fields at each locality. When the density is too high or when the individual plants grow too prosperously, the development of the colony will be too prosperous, the plants will be too crowded, spaces in the field are closed, photosynthetic productivity is lowered, nutrients are insufficient, the growth of the individual plants is weakened or lodging occurs, and high yields cannot be realized. For example, the basic number of seedlings per mu in the No 5 wheat field of the superior seed farm at Zhangluogang in Xiangyang County was 206,000 and the total number of stemmed seedlings was 952,000, the number of effective spikes was 330,000, the single spike weighed 1.4 grams, and the per mu yield was 824 jin. In the neighboring No 4 wheat field, there were only 146,000 basic seedlings, a total of 672,000 stemmed seedlings, 332,000 effective spikes, the single spike weighed 1.49 grams and because the colony was small, the individual plants developed better and the per mu yield was 889 jin, 65 jin more than the former. Therefore, as long as the colony can develop reasonably well at different stages of growth, the healthy development of the individual plants can be assured, the number of spikes, the number of grains and the weight of grains can develop in a balanced and coordinated manner, there will be plenty of spikes, plenty of grains, heavy grains, and a high yield. Actual high yields of wheat in the Xiangyang Prefecture (Table 2) indicate that the dynamic indicators of a more reasonable structure of the colony to produce a per mu yield of over 800 jin are: a basic number of between 130,000 and 180,000 seedlings per mu, a total number of seedlings of between 450,000 and 600,000 before winter, a highest number of seedlings of no more than 800,000 after spring, and effective spikes of between 330,000 and 380,000. Growth of the plants is strong but not prosperous. Leaves are erect and not dropping. The plants are uniform in growth. Their heights are consistent. The spikes are of similar size. There are few bottom spikes, the lower part of the wheat plants are clear and neat, shedding of yellow leaves during the latter growth period is normal, and the plants do not remain green and mature late and lodge.

II. Major Techniques of Cultivation of High Yields

1. Timely sowing and reasonably dense planting are prerequisites of high yields. Practice and experiment in producing high yields have shown that by reasonably dense planting, appropriately arranging the development of seedlings, tillers and spikes so that the growth of the colony during each stage of growth can be controlled and kept within relatively reasonable indexes, and by solving the conflicts between

Table 2. Dynamics of the Colonies of Per Mu Yield of Over 800 Jin of Wheat

(1) 调查单位	(2) 品种	(3) 基本苗（万/亩）		(6) 冬前总苗数(万/亩)		(9) 春后最高苗数(万/亩)		(12) 穗数(万/亩)		(15) 平均产量（斤/亩）
		(4) 变动范围	(5) 平均	(7) 变动范围	(8) 平均	(10) 变动范围	(11) 平均	(13) 变动范围	(14) 平均	
(16) 襄阳县农业局	襄麦5号(17)	—	12.8	—	62.6	—	67.5	—	30.8	1.032
	襄麦6号(18)	13—16	13.8	40—83	60.8	60—93	75.0	28—41	33.0	859
	襄麦7号(19)	—	16.7	—	54.2	—	57.4	—	39.8	969
	宜宾1号(20)	13—21	16.0	40—67	54.5	50—96	70.2	28—33	31.3	861
	7023	—	16.9	—	85.6	—	100.6	—	32.1	811
	郑州741 (21)	11—16	13.3	40—50	45.8	55—70	62.6	33—37	35.7	936
(22) 襄樊市农业局	郑引1号(23)	15—19	17.8	54—68	65.6	60—82	76.5	30—34	33.0	819
	襄麦5号(24)	11—18	15.3	41—50	45.6	52—60	53.1	32—34	33.3	812
	庞新3号(25)	—	14.8	—	60.6	—	—	—	31.2	857
	河地麦(26)	|	11.8	—	30.4	—	45.9	—	31.9	820
(27) 随县农业局	7023	15—22	19.1	38—54	50.6	60—84	62.0	28—42	30.1	839
	宜宾1号(28)	14—21	17.8	36—50	43.7	50—68	58.4	28—40	32.6	838
	襄麦5号(29)	15—18	16.3	44—61	52.6	55—78	66.3	27—30	28.5	837

Key:

1. Surveying unit
2. Vaiieties
3. Basic number of seedlings (10,000/mu)
4. Range of variation
5. Average
6. Total number of seedlings before winter (10,000/mu)
7. Range of variation
8. Average
9. Highest number of seedlings after spring (10,000/mu)
10. Range of variation
11. Average
12. Number of spikes (10,000/mu)
13. Range of variation
14. Average
15. Average yield (jin/mu)
16. Xiangyang County Bureau of Agriculture
17. Xiangmai No 5
18. Xiangmai No 6
19. Xiangmai No 7
20. Yibing No 1
21. Chengzhou 741
22. Xiangfan City Bureau of Agriculture
23. Chengyin No 1
24. Xiangmai No 5
25. Pangxin No 3
26. Hedimai
27. Suixian Bureau of Agriculture
28. Yibing No 1
29. Xiangmai No 5

high yield and insufficiency of light in the field and malnutrition to assure an abundance of spikes and heavy spikes are prerequisites to realizing high yields. To realize reasonably dense planting and to achieve a reasonable structure of the colony, the basic number of seedlings must be adjusted well according to soil fertility, characteristics of the varieties, time of sowing and conditions of cultivation. Only by grasping reasonably dense planting and the dynamics of the structure of the colony can the initiative of realizing a reasonable planting and controlling the development of the colony be realized. Experiments conducted by the agricultural science station of the Nizui Commune in Xiangyang County have proven that when the numbers of spikes per mu are similar, fields with a lesser number of basic seedlings and more spikes formed from tillers show visible increased yield (Table 3). Therefore, appropriately lowering the amount of sowing and reducing the basic number of seedlings so that the wheat plant can fully develop its tillering characteristics, and based on a sufficient number of spikes per mu, controlling the development of the colony, and stimulating the individual plants to develop well constitute a relatively stable and appropriate way to realize high yields of wheat.

Table 3. Comparison of the Yield and the Dynamics of the Colony When the Number of Basic Seedlings Are Different But the Numbers of Spikes Per Unit Area Are Similar

(1)	(2)	(3)				(10)		(13)	(14)	(15)
		(4)		(5)		(11)	(12)			
		(6)	(7)	(8)	(9)					
11	9.0	36.9	4.1	72.9	8.1	35.2	3.9	31.8	41.0	826
23	23.7	46.7	1.9	90.0	3.8	35.0	1.3	27.7	39.8	694
14	12.0	49.6	4.2	77.1	6.4	34.0	2.8	30.7	40.5	780
32	32.4	79.6	2.5	98.3	3.0	34.0	1.0	26.7	37.9	611

Key:

1. Sowing amount (jin/mu)
2. Basic number of seedlings (10,000/mu)
3. Dynamics of the colony
4. Before winter
5. After spring
6. Colony (10,000/mu)
7. Single plant
8. Colony (10,000/mu)
9. Single plant
10. Number of spikes
11. Colony (10,000/mu)
12. Single plant
13. Number of grains per spike
14. Thousand grain weight (gram)
15. Yield (jin/mu)

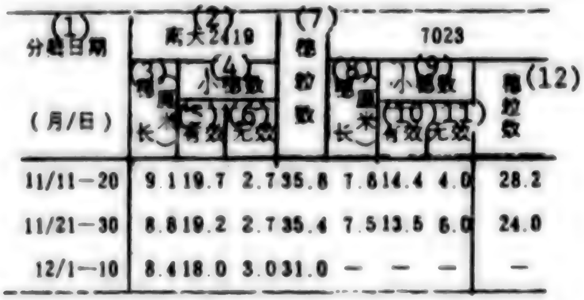
Timely sowing is an important link in realizing reasonably dense planting and controlling the structure of the colony. According to practices of producing high yields and the temperature conditions in Xiangyang County, the best time for sowing wheat of the semi-winter variety such as "7023," is between 16 and 20 October. The best time for sowing vernal varieties such as Chengyin No 1 is between 20 and 25 October. In this way, over three tillers will be able to emerge before the year ends. Sowing too early is not good for realizing reasonably dense planting and controlling the structure of the colony because of high temperatures.

2. Deep tilling and fine preparation, increased application of organic fertilizers, soil improvement and banking of fertilizers to increase soil fertility are the bases for high yields. Deep tilling can increase the thickness of the active soil layer, improve the aeration, temperature and water conditions in the tilling layer of the soil. This benefits microorganic activity, stimulates the release of hidden nutrients in the soil, but it cannot raise the level of the cycle of material conversion to a new height. Deep tilling combined with increased application of organic fertilizers can hasten the conversion cycle of material and also can raise this cycle of conversion to a new level. According to surveys, the tilling depth of high yielding fields of wheat is generally above 8 cun. The fertilizers used are mainly farm manure supplemented by chemical fertilizers, base manure supplemented by sidedressing, increased application of phosphorous fertilizers and a reasonable application of nitrogenous fertilizers. The amount of farm manure used as base manure converts to over 30 jin of pure nitrogen, constituting between 70 and 80 percent of the total amount of fertilizers applied. The method of application is by layers. The farm manure is applied as the bottom layer, phosphorous fertilizers and ammonium carbonate are applied as the middle layer, and urea as the fertilizer for seeds is applied as the surface layer. In the past year, the superior seed farm of Luogang in Xiangyang County insisted on deep tilling and fine preparation of the soil (tilling depth of 9 to 10 cun, raking the field 7 to 9 times), increased application of organic fertilizers (applying 9,000 to 11,000 jin of farm fertilizer per mu and 30 to 50 jin of cake fertilizer per mu), and increased the active soil layer from 6 to 7 cun deep to generally about 10 cun. According to the results of soil nutrient tests conducted in 1978, the organic content in the tilling layer was above 1.3 percent, the contents of immediately effective nitrogen was 20-28 ppm, immediately effective phosphorus was 17.5-20 ppm, and immediately effective potassium was 152-200 ppm. The first three showed an increase over those of 1973 by 0.1 to 0.3 percent, 3.7 to 11.1 ppm, and 5.5 to 18 ppm. A good foundation has been laid for achieving high yields of wheat. This year the farm has 480 mu of wheat with average per mu yield of 747.7 jin, and 105 mu surpassed a per mu yield of 800 jin.

3. Reasonable application of sidedressing is an important link in creating high yields. Observing the seedlings according to soil

condition when sufficient base manure has been applied, reasonable application of sidedressing to raise the percentage of formation of spikes from tillers and improving the characteristics of spikes are an important link in creating high yields of wheat. The quality of the tillers of wheat is a decisive factor in determining the percentage of formation of spikes and the size of the spikes. According to observations by the Xiangfan City Bureau of Agriculture and the Agricultural Science Institute of Yicheng County, when the seeds are sown at a proper time, the earlier tillers emerge, the more leaves there are on the tillering seedlings, and the higher the percentage of formation of spikes, the better the characteristics of the spikes (Table 4). Therefore, to assure early growth and fast development of tillers before winter and to cultivate healthy and strong and large tillers, they paid attention to sidedressing of fertilizers for the growth of seedlings. According to experiments conducted by the superior seed farm of Luogang in Xiangyang County, 25 jin of urea was applied per mu as fertilizer for the growth of seedlings and per mu yield reached 952 jin, an increase of 121 jin in yield over fields without application of sidedressing.

Table 4. Relationship Between the Characteristics of the Single Spike and the Time of Emergence of Tillers of the Nanda 2419 and "7023"



(1) 分蘖日期 (月/日)	(2) 南大2419			(7) 穗粒数	7023			(12) 穗粒数
	(3) 穗长 (厘米)	(4) 小穗数			(8) 穗长 (厘米)	(9) 小穗数		
		(5) 有效	(6) 无效			(10) 有效	(11) 无效	
11/11—20	9.1	19.7	2.7	35.8	7.8	14.4	4.0	28.2
11/21—30	8.8	19.2	2.7	35.4	7.5	13.5	6.0	24.0
12/1—10	8.4	18.0	3.0	31.0	—	—	—	—

Key:

1.	Date of tillering (month/day)	7.	Number of grains on spikes
2.	Nanda 2419	8.	Length of spikes (centimeter)
3.	Length of spikes (centimeter)	9.	Number of small spikes
4.	Number of small spikes	10.	Effective
5.	Effective	11.	Ineffective
6.	Ineffective	12.	Number of grains on spikes

After arrival of spring, and as the temperature rises, wheat enters the jointing and spike bearing stage. This is a period when the vegetative growth and reproductive growth of wheat are both prosperous, and also the time when wheat needs the most nutrients. To satisfy the need for nutrients, reduce degeneration of small spikes and spikelets, raise the fruiting percentage, increase the number of grains on spikes, generally a sidedressing of fertilizers for jointing is applied except in fields of high yield where growth is prosperous. Practice shows that it is better and more appropriate to apply sidedressing for jointing when the first internode at the base of the plant has established its length. This can prevent wheat from early withering due to a shortage of fertilization, benefit the growth of large spikes and plenty of grains, and also prevent the plant from remaining green and late maturation and lodging.

After the wheat has headed, the size of the colony is established. At this time, the major goal in high yielding fields is to raise the thousand grain weight. Using the function of the leaves to absorb nutrients and sidedressing outside the root are effective measures to supplement the deficiency of nutrients during the latter period of growth, prevent early withering, prolong the functioning period of the upper leaves, and increase the thousand grain weight. The Xiangfan City Bureau of Agriculture and the Agricultural Science Station of Nanzhang County used 0.2 percent of dihydropotassium phosphate or 2 percent of urea added to 3 percent of an aqueous solution of calcium superphosphate as fertilizers for sidedressing outside the roots and increased the thousand grain weight of wheat by 1 to 3 grams, and the weight tended to increase as the number of sprayings increased.

4. Prevention of lodging is a key measure to assure high yields. Lodging is "the tiger blocking the way" in creating high yields of wheat. The major cause of lodging is 1) the variety itself is not resistant to lodging; 2) the technique of cultivation is inappropriate, especially overly abundant application of nitrogen or improper fertilization; 3) the effects of weather conditions. In preventing lodging, preparation of the field for sowing and field management during each growth period should be closely coordinated, comprehensive measures should be taken and the initiative should be taken in the prevention of lodging so that better results can be obtained.

Selecting varieties that are resistant to lodging is an inner factor. Different varieties possess different abilities to resist lodging. Wheat varieties that are short, that possess short internodes on the stem, that possess strong and thick and stiff stems and that are strongly tolerant to fertilization have strong resistance to lodging. The varieties that possess a relatively strong resistance to lodging and suitable at present for planting in the Xiangyang Prefecture are Xiangmai No 5, "7023," Yibing No 1 and Chengyin No 1. These varieties, when planted in conditions of slightly higher than medium fertility and as long as each measure of the techniques of cultivation is well coordinated, can yield above 800 jin per mu without lodging.

Timely application of appropriate amounts of application of nitrogenous fertilizers can stimulate tillering and growth of the leaves on the stem of wheat, increase the area of green leaves, and is beneficial to intensifying photosynthesis and the accumulation of nutritive material. It has an important function in producing high yields of wheat, but more application of nitrogen is not always better. Simultaneously with the increased application of nitrogenous fertilizers, increased amounts of phosphorous and potassium fertilizers should be applied in order to realize high yields and prevent lodging. According to experiments conducted by the agricultural techniques station of the Zhuji Commune in Xiangyang County, lodging did not occur even without sidedressing of nitrogenous fertilizers in wheat fields after 7,500 jin of superior quality farm manure and 50 jin of compound fertilizers were applied per mu as base manure, while a second degree lodging occurred throughout the field when 20 jin of urea were applied as sidedressing per mu.

After wheat has germinated, wheat fields in which prosperous growth trends in winter and spring occur should be packed. This will check the growth. The plants will become dwarfed, the internodes at the base of the stem will shorten, and the ability to resist lodging will be strengthened. According to surveys conducted by the Xiangfan City Bureau of Agriculture, the Chengyin No 1 wheat fields that grew prosperously were packed on 11 December. The results were measured on 5 January. The height of the plants was shorter by 1.7 centimeters than plants in fields which were not packed. The length of the reverse second leaf at the upper part of the plant shortened by 1.5 centimeters, and the width of the leaf reduced by 0.1 centimeters. The number of leaves did not increase and the effect of suppressing the growth of the seedlings of wheat was obvious.

In addition, wheat fields that grow prosperously in winter should be deeply intertilled and covered with soil. These measures have a definite effect in preventing lodging. According to surveys conducted by the Suixian Bureau of Agriculture, wheat fields that were packed and covered with soil during deep intertilling before winter showed a first degree lodging. Lodging in fields deeply intertilled, packed and covered with soil after deep intertilling was between the first and second degrees. Fields which were deeply intertilled showed a second degree lodging. Fields which were not deeply intertilled, not packed and not covered by soil showed a third degree lodging.

9296
CSO: 4007

HUBEI

BRIEFS

COMMUNE MANAGEMENT CONFERENCE--From 27 February to 7 March, the Hubei Provincial CCP Committee held a conference in Wuhan on management of the people's communes in the countryside throughout the province. The participants checked up on preparation for spring farming and put forward the key measures for reaping a bumper agricultural harvest this year. They revealed that the level of management in the countryside is still very low and must be rectified and enhanced. Therefore, it is necessary to improve planned management, popularize contract system gradually, establish the system of production responsibility, strengthen financial management, implement economic auditing and set up a management team. However, it is also necessary to do a good job of quota management. It was pointed out at the conference that financial management in the countryside of our province is still a weak link. [HK220424 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 14 Mar 80 HK]

LEADERS AID AFFORESTATION--On 12 March, Han Ningfu, secretary of the Hubei Provincial CCP Committee and provincial governor; Wang Qun, deputy secretary of the provincial CCP committee, and other leading comrades took part in afforestation at the (Puqi) General Textile Works together with the staff and workers. Also participating were (Wang Ruisheng), first secretary of the Xianning Prefectural CCP Committee, and (Zhao Wenhua), prefectural special commissioner. A total of 8,000 participated in afforestation on this occasion. Some 50,000 trees were planted on 12 March. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 12 Mar 80 HK]

AFFORESTATION RALLY--On 10 March, the Hubei People's Government held a mobilization rally on afforestation. Han Nang [word indistinct] secretary of the Hubei Provincial CCP Committee, and provincial governor, spoke. He pointed out that there had been slow progress in afforestation in the province. He said that among the nine provinces in southern China, Hubei is in the eighth position in afforestation. The areas of afforestation in the province are equivalent to three times that of the total areas of the agricultural farmland, but the output value of forestry accounts for only 4 percent of the total agricultural output. The party committees and governments at all levels must include forestry in their daily agenda. [Wuhan Hubei Provincial Service in Mandarin 1100 GMT 10 Mar 80 HK]

CSO: 4007

COTTON PRODUCTION--Wuhan, 23 Mar--Hubei's Xinzhou County produced 480,000 dan of cotton from its 300,000 mu of cotton fields in 1979, with the average per-mu yield of ginned cotton reaching 162 jin. [Beijing XINHUA Domestic Service in Chinese 0133 GMT 23 Mar 80 OW]

CSO: 4007

BRIEFS

YEAREND DISTRIBUTION--The 1979 yearend distribution for the countryside in Hunan has been completed. Each person in the province received an average of 605 jin, an increase of 49 jin over 1978, and 92 yuan 3 jiao, an increase of 11 yuan 1 jiao over 1978. There are 20,760 production teams whose members received an average income of 150 yuan each including 3,022 production teams whose members received an average income of 200 yuan each. In 1979, the people in this province experienced rain and low temperature in spring, storms and flooding in summer and a protracted drought in autumn and winter. Despite these natural disasters, the total income of the accounting units of the people's communes throughout the province reached 7.47 billion yuan. This was an increase of 14.1 percent over 1978. The total output of grain increased by 6.3 percent over 1978, while the total output of cotton increased by 24.1 percent over 1978 and the total value of commune and brigade enterprise output increased by 14 percent over 1978. In 1979 the grain delivered to the state increased by 380 million jin over 1978, while the financial revenue increased by 24 million yuan over 1978. [Changsha Hunan Provincial Service in Mandarin 2315 GMT 12 Mar 80 HK]

NATIONAL SCIENTIFIC FARMING CONFERENCE--The third national conference on agricultural scientific and technological information was recently held in Changsha. He Kang, vice minister of agriculture, spoke. Wang Zhiguo, secretary of the Hunan Provincial CCP Committee and vice provincial governor, attended the conference. The participants discussed and formulated the objectives of struggle to be achieved by 1985 and the main tasks in the coming 3 years. [Changsha Hunan Provincial Service in Mandarin 2315 GMT 14 Mar 80 HK]

CATTLE BREEDING SUBSIDIZED--The Hunan Provincial People's Government has decided to give fodder grain subsidies for calves raised and beef cattle procured in order to support cattle breeding by collectives and commune members. The decision of the provincial people's government was sent out in the form of a circular to the county authorities at the end of last month. With immediate effect from the date the circular arrived, the state will grant a ration of 100 jin of fodder grain as a subsidy for each 1-month-old calf raised, no matter whether it is raised by a collective or by an individual commune member; and for each beef cow or ox procured, regardless of age or condition. [Text] [Changsha Hunan Provincial Service in Mandarin 2315 GMT 15 Mar 80 HK]

CSO: 4007

BRIEFS

HEAVY RAINFALL REPORTED--According to the Jiangsu Provincial Meteorological Bureau, the current spell of wet weather will continue for 3 to 5 more days. The rainy weather has caused adverse effects on the summer-ripening crops. All localities should strengthen field management to overcome any adverse effects on the crops. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 17 Mar 80 OW]

SPRING FARMING--Preparations for 1980 spring farming are being carried out by rural cadres and commune members in Jiangsu Province. In spring 1980 the province plans to transplant 42 million mu of rice, an increase of 1.7 million mu over 1979. The sowing plan of 8.8 million mu of cotton has also been implemented down to every commune. Additional fertilizers have been applied to wheat fields in order to speed up the growth of crops. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 15 Mar 80 OW]

COTTON GROWERS IN NANJING--Some 6,500 representatives from high-yielding cotton-producing units in Jiangsu Province recently visited Nanjing in successive groups. During their stay, they studied the communique of the 5th plenary session of the 11th CCP Central Committee and Xu Jiatun's speech at the provincial advanced agricultural units and model workers commendation meeting. They visited the Meiyuan Villa, the Yuhuatai Revolutionary Martyrs Cemetery, the Yangtze River Bridge, the Jiangsu Provincial Agriculture Exhibition Hall and Sun Yat-sen's tomb, and toured the Xuanwu Lake. On behalf of the Jiangsu Provincial CCP Committee and the provincial people's government, Zhou Ze and Chen Ketian met with the representatives. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 12 Mar 80 OW]

HYBRID RICE PLANTING--Jianhu County, Jiangsu, has completed preparations for planting hybrid rice this year. The county plans to expand acreage planted to hybrid rice to 500,000 mu, or 70 percent of the country's paddy rice area. [Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 19 Mar 80 OW]

RUDONG COUNTY AGRICULTURE--Contracts for production, purchase and marketing of grain, cotton, edible oil and hogs for 1980 have been concluded at the county, district, commune, production brigade and production team levels in Rudong County, Jiangsu Province. The contracts have greatly stimulated the enthusiasm of cadres and commune members to increase production. Fertilizer application and other farm work have been completed on the county's 800,000 mu of wheat, barley and naked barley, 40,000 mu of rape and 490,000 mu of green manure. [Nanjing Jiangsu Provincial Service in Mandarin 1100 GMT 27 Mar 80 OW]

CSO: 4007

BRIEFS

COMMUNE, BRIGADE ENTERPRISES CONFERENCE--The Jiangxi commune and brigade enterprise conference demanded that the various areas actively grasp the readjustment and rectification of the commune and brigade enterprises, strive to improve the enterprise management and the level of production technology and enliven the commune and brigade enterprises. By the end of 1979, there were 40,826 commune and brigade enterprises in Jiangxi employing 800,000 persons. The total income reached 1,210 million yuan, accounting for 26 percent of the income of the three-level economy of the people's communes. In 1979 the total income of the commune and brigade enterprises in Pingxiang Municipality reached 186.59 million yuan, accounting for 61.7 percent of the three-level economy of the people's communes. Yearly income from the commune and brigade enterprises in Fengcheng, Nanchang and Yichun counties reached 40 million yuan, while Gadan, Leping, Jinxian and Linchuan counties reached 30 million yuan. Wang Zhaorong, Standing Committee member of the Jiangxi Provincial CCP Committee and vice provincial governor, attended and spoke. This year the total income from the commune and brigade enterprises in Jiangxi must reach 1.5 billion yuan. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 21 Mar 80 HK]

SPRING FARMING--Since last winter and this spring, the finance and trade departments in Jiangxi have actively supported spring farming. By the end of February, the supply and marketing departments at all levels in Jiangxi stored 757,000 tons of chemical fertilizer. This was an increase of 150,000 tons over 1979. The amount of equipment for spreading plant chemicals increased by 100,000 pieces over 1979. At present a large quantity of chemical fertilizers, plant chemicals and farm machinery have been transported to the first line of agricultural production. In 1980 loans for supporting agriculture increased by 63.72 million yuan over 1979. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 16 Mar 80 HK]

COTTON SOWING--Jiujiang Prefecture is the main cotton-producing area in Jiangxi. In Pengze County, there were 158,000 mu of cotton fields, but only 140,000 mu were sown in 1979. At present this county has transformed 15,000 mu of cotton fields. In Duchang County, there were 100,000 mu of cotton fields, but only 90,000 mu were sown in 1979. Since last winter the county has transformed 15,000 mu of rice fields into cotton fields. In Yichun Prefecture, the people planted 1,000 mu of cotton more than the state plans. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 16 Mar 80 HK]

AERIAL AFFORESTATION--Since 1965, the people in Ganzhou Prefecture conducted aerial sowing of trees on seven occasions, covering 16 counties and municipalities over an area of 2 million mu. Aerial sowing is particularly useful over the remote border areas. This year, the prefecture plans to aerially sow 400,000 mu of trees in six counties in the prefecture. At present, the Jiangxi Civil Aviation Bureau has sent airplanes to actively take part in aerial sowing. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 21 Mar 80 HK]

SPRING FARMING RALLY--On 7 March the Jiangxi Provincial People's Government held a mobilization rally on spring farming at the "1 August" Hall in Nanchang. Attending the rally were Wang Haorong, Xu Qin, Li Shizhang, Fang Qian and Liang Haixuan, responsible comrades of the Jiangxi Provincial CCP Committee and the provincial people's government. Xu Qin, Standing Committee member of the Jiangxi Provincial CCP Committee and vice provincial governor, presided over the rally. Wang Zhaorong, Standing Committee member of the Jiangxi Provincial CCP Committee and vice provincial governor, spoke. He revealed that grain output in 1979 increased by 3 billion jin over 1977 and 1978. He pointed out that since last winter most areas had not collected as much farm manure as in the corresponding period of last year. The areas sown to green manure and their growth are not as good as last year. Therefore, it is necessary to collect and grow more farm manure and tend green manure well. It is necessary to organize forces to crash repair dangerous reservoirs. It is also necessary to be prepared for the possible outbreak of spring drought. [Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 7 Mar 80 HK]

CSO: 4007

BRIEFS

IRRIGATION PROJECTS--Since last fall and winter, Jilin Province has utilized ground water to irrigate farmland by making good use of the pump wells in various places. At present some 220,000 mu of farmland have been put under irrigation by pump wells. This has provided good conditions for spring farming. [Changchun Jilin Provincial Service in Mandarin 1100 GMT 19 Mar 80 SK]

STATE FARM MEETING--The Jilin Provincial Farm and Land Reclamation Bureau held a meeting from 4 to 10 March to discuss the work of state farms in the province. According to the work plan outlined at the meeting, the state farms this year will place emphasis on opening new avenues to promote production and on developing diversified operations. [Changchun Jilin Provincial Service in Mandarin 2200 GMT 18 Mar 80 SK]

CSO: 4007

BRIEFS

FARM MECHANIZATION MEETING--The Liaoning Provincial CCP Committee held a farm mechanization work meeting from 1 to 5 March. At the meeting a work plan was drawn up for developing farm mechanization in 1980. Among other things, ways of improving management of the farm machines in the province were discussed, as well as how to maintain and use them in the most efficient way possible. [Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 15 Mar 80 SK]

FARMING INSPECTION GROUPS--The Liaoning Provincial CCP Committee and the provincial people's government have organized 43 inspection groups to check the work on spring farming in various localities. Before the departure of these inspection groups, the provincial CCP committee briefed them on this year's agricultural production plan and set up the details to be checked when they make their inspection. [SK220159 Shenyang Liaoning Provincial Service in Mandarin 2200 GMT 16 Mar 80 SK]

CSO: 4007

NEI MONGGOL

BRIEFS

GRASSLAND CONFERENCE--The national investigation conference on grassland resources in major pastoral areas was held by the North China Grassland Office in Hohhot Municipality, Nei Monggol, on 11 March. Attending the conference were grassland scientists and technicians from Xinjiang, Heilongjiang, Sichuan, Qinghai and Jilin provinces and Nei Monggol region. During the conference, (Jia Xianqiu), a famous grassland expert of our country, introduced the advanced technology on investigating grassland resources. [SK260016 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 15 Mar 80 SK]

SCIENTIFIC SEMINAR HELD--At a report meeting of regional delegates who had attended a preparatory meeting for the northwest China seminar on agricultural modernization, the leading comrades of the Nei Monggol Regional People's Government decided to hold a regional academic seminar on the modernizations of agriculture, animal husbandry and forestry at a proper time. Jie-er-ge-le, deputy secretary of the regional CCP committee and vice chairman of the regional people's government, delivered a speech at the report meeting. He said that in the past the scientific and technological work were not well developed and the role of scientists and technicians had not been brought into full play, and he called for efforts to resolve these problems. The report meeting also decided to establish a preparatory leading group and a preparatory office for this academic seminar. Jie-er-ge-le was appointed leader of the leading group and Zhou Beifeng and Tu-ba-gen, vice chairmen of the regional people's government, were appointed deputy leaders. [SK260016 Hohhot Nei Monggol Regional Service in Mandarin 1100 GMT 14 Mar 80 SK]

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BRIEFS

YAK HAIR PROCUREMENT--The Qinghai Provincial Animal Byproduct Import-Export Branch Company has decided to promote production and procurement of yak hair this year to expand export. It is estimated that there are 4.8 million head of yaks in Qinghai and the output of yak hair, a fine raw material for textile production and a popular merchandise on the world market, can reach 1.6 million jin annually. [Xining Qinghai Provincial Service in Mandarin 1100 GMT 18 Mar 80 OW]

CSO: 4007

SHAANXI

BRIEFS

DROUGHT RESISTING GROUP--Responsible comrades of the Shaanxi Provincial CCP Committee and the provincial people's government have organized a drought resisting group, which is composed of 80 leading comrades of the government organs at the provincial level. The Weinan work team is led by Lu Jianren, chairman of the Shaanxi CPPCC Committee and secretary of the Shaanxi Provincial CCP Committee. These groups and teams have now gone to the first line of resisting drought. The Shaanxi Provincial CCP Committee and the provincial people's government held a mobilization rally on 10 March to resist drought. [Xian Shaanxi Provincial Service in Mandarin 1100 GMT 12 Mar 80 HK]

NITROGENOUS SUBTERRANEAN WATER--Beijing, 25 Mar--Shaanxi Province has been tapping its nitrogenous subterranean water to irrigate its rural areas. It is estimated that Shaanxi has such water, which is rich in nitrogen, under some 600,000 mu of land. As of now, the province has sunk some 28,500 wells tapping nitrogen-rich water to irrigate over 500,000 mu of farmland. These wells provide an equivalent of some 24,600 dun of ammonium sulphate annually. [Beijing XINHUA Domestic Service in Chinese 0726 GMT 25 Mar 80 OW]

CSO: 4007

BRIEFS

FARM MACHINERY MANAGEMENT--In a recent interview with reporters, (Duan Junqing), director of the Shandong Provincial Farm Machinery Administration Bureau, stressed the need to manage farm machines with economic methods. He said that the system of accounting on the basis of single machines and the responsibility system of setting quotas of tasks, oil consumption and costs for a definite number of operators and farm machines, and giving awards on the basis of fulfillment of these quotas should be popularized throughout the province this year. He said that practices in the past year had proven that these systems were conducive not only to boosting farm machine operators' enthusiasm and improving the level of their technical skills, but also to make the best use of machines and reducing production costs. (Duan Junqing) said that by the end of 1979 the number of tractors in the whole province totaled 193,000 with a total horsepower of 4.27 million. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 8 Mar 80 SK]

AFFORESTATION PROJECTS--Good results have been achieved in planting trees on the plains of Shandong Province. So far, some 35 million mu of shelterbelts have been built around farmlands and some 2 billion trees have been planted around villages and houses and along canals and roads. Wooded acreage now amounts to 6.[illegible] percent of the total acreage of these areas. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 9 Mar 80 SK]

AFFORESTATION INSTRUCTION--At the invitation of our station, (Cui Beihua), director of the Shandong Provincial Forestry Department, gave a speech on the occasion of the first arbor day of the 1980's. He stated that in order to accomplish successful afforestation, it is necessary to implement as a main role the principle of doing collective afforestation work at commune and brigade levels, to actively develop state-sponsored afforestation operations and to encourage commune members to carry out afforestation work individually. He emphatically pointed out: In order to do a good job in forestry production it is important to be organized. Therefore, forestry departments at all levels should conduct investigations and studies successfully, map out plans according to the results of the investigations and studies and arouse the people to implement the plans sincerely. He also stated in conclusion To truly push forward the forestry production, it is imperative to resolutely follow the principle of paying attention to the two tasks of planting trees and managing effectively so as to achieve an early forest maturity. [Jinan Shandong Provincial Service in Mandarin 2300 GMT 11 Mar 80 SK]

DIVERSIFIED RURAL ECONOMY--Jinan, 14 Mar--Income from diversified rural economy rose over one-fifth in east China's Shandong Province last year compared with 1978. Roughtly 70 percent of the total income went to collectives and the rest to individual producers. The collective income was up 17 percent compared with 1978. Total output of fruit last year topped 1.5 million tons. Shandong is China's biggest fruit producer. It is also one of the four biggest producers of cocoons; output was 9,500 tons last year. Tea gardens cover a total of 5,200 hectares. State purchases of pigs was 42 percent above 1978; eggs 60 percent; honey 38 percent; rabbit meat 17 percent and tea 25 percent. There are now 6 million domestic rabbits and 825 tons of rabbit hair were purchased last year, almost one-third more than in 1978. [Beijing XINHUA in English 0247 GMT 14 Mar 80 OW]

CSO: 4007

BRIEFS

AFFORESTATION MEETING--A mobilization meeting on afforestation work was held in Shanghai on the afternoon of 10 March. The meeting called on people in Shanghai to implement the directives issued by the CCP Central Committee and the State Council on unfolding a vigorous campaign to plant trees. Responsible members of the Shanghai Municipal CCP Committee, the Standing Committee of the municipal people's congress and the municipal government including Wang Yiping, Han Zheyi, Zhong Min, Chen Yi, Li Jingxiang, Wang Tao, Chen Zonglie and Yang Di and responsible members of the municipal CPPCC committee attended the meeting. Comrade Han Zheyi presided. Comrade Yang Di delivered a speech calling on the people to make the municipality green by 1985. [Shanghai City Service in Mandarin 1130 GMT 10 Mar 80 OW]

AFFORESTATION BY AIR--Since the end of February, the Shanghai Civil Aviation Administration has dispatched eight planes to afforest 470,000 [mu] of land in Ju County, Zhejiang, Shou County, Anhui and South Jiangxi. [Shanghai City Service in Mandarin 2300 GMT 30 Mar 80 OW]

CSO: 4007

BRIEFS

SPRING FARMING NOTICE--The recent notice of the Shanxi Economic Committee in industry and communications stressed that it is necessary to do a good job of supporting agriculture, resisting drought and carrying out spring irrigating and sowing. The notice revealed that the province had little snow last winter and little rainfall this spring, causing continuous drought from winter to spring. Therefore, during spring irrigation and resisting drought, the power generation plants must produce more electricity. The industry enterprises must save electricity, reduce consumption and give priority to agriculture in the use of electricity during drought resistance. The supply of chemical fertilizer and plant chemicals must be insured without missing the farming season. [Taiyuan Shanxi Provincial Service in Mandarin 2300 GMT 6 Mar 80 HK]

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BRIEFS

RURAL DISTRIBUTION--According to statistics of the departments concerned in Sichuan, compared with 1978, the total output of grain in 1978 in Sichuan increased by 2.8 billion jin, while the total income from the agricultural and sideline products increased by 1.3 billion yuan. The communes and brigades in the countryside have fulfilled the state's procurement tasks, providing an increase of 1.4 percent of the commercial grain to the state. The collective accumulation increased by 37.8 percent. Each commune member received an average increase of 28 jin in food rations reaching 521 jin. Each of them also received an average increase in income of 8 yuan 1.5 jiao reaching 80 yuan 1 jiao. [HK271425 Chengdu Sichuan Provincial Service in Mandarin 2310 GMT 18 Mar 80 HK]

AGRICULTURE SYMPOSIUM--Recently, the Sichuan Scientific Committee, the Grain Bureau and the Animal Husbandry Bureau held a joint symposium to exchange experiences in the scientific handling of fodder, discuss the issues of fodder resources and their rational use in our province, and study the scientific research tasks on the components of fodder. They pointed out that using combined fodders to feed animals can produce fat in 7 to 9 months. [HK220317 Changdu Sichuan Provincial Service in Mandarin 2310 GMT 14 Mar 80 HK]

SICHUAN COUNTY GRAIN IMPROVEMENT--Through scientific farming, 20 out of 21 counties in Sichuan which were prone to natural disasters, low-yields and grain shortages have made comparatively greater improvement with prominent achievements in production and daily life. Most of these counties are located on the mountain areas on the border and in remote areas. In the past 3 years, the total output of grain in these counties increased by 43 percent, while unit output increased by 50 percent. The average food ration for each commune member increased by 67 percent, while income from distribution increased by 58 percent. The greatest threat to the crops in these counties is summer drought, which usually occurs in July and August. [Chengdu Sichuan Provincial Service in Mandarin 2310 GMT 15 Mar 80 HK]

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BRIEFS

AFFORESTATION MEETING--On 10 March the Tianjin Municipal Revolutionary Committee held a meeting at which participants listened to and watched the live television and radio program transmitted by the Beijing domestic broadcasting stations regarding the national afforestation mobilization rally. After watching the program, Wang Enhui, vice chairman of the municipal revolutionary committee, delivered a speech in which he aroused the people to actively join the municipal tree planting campaign and made arrangements for the campaign. Attending the meeting were responsible comrades from the various departments, commissions and offices of the municipal CCP and revolutionary committees, from the various higher education institutions, from the various districts, counties and bureaus, and from the PLA units stationed in Tianjin, a total of more than 200 persons. [Tianjin City Service in Mandarin 1330 GMT 10 Mar 80 SK]

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BRIEFS

SPRING FARMING OPERATIONS--Urumqi, 24 Mar--Spring farming is in full swing in Xinjiang's rural areas. Wheat, barley and rape have been sown to over 1 million mu of land throughout the region. [Beijing XINHUA Domestic Service in Chinese 0300 GMT 24 Mar 80 OW]

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XIZANG

BRIEFS

AGRICULTURAL PRODUCTION MEETING--The Xizang Regional Agriculture Commission recently held a regional conference on agricultural and pastoral production in Lhasa Municipality. It lasted 7 days, conveyed the guidelines of the national conference of the operations and management of rural communes and the national conference of the directors of agriculture and animal husbandry bureaus and departments, and studied and discussed the ways to further raise agricultural and pastoral production in the region. Song Ziyuan, secretary of the regional CCP committee, and Luo-sang-chi-cheng, vice chairman of the regional people's government, were present. Luo-sang-ci-cheng also spoke at the conference. [Lhasa Xizang Regional Service in Mandarin 1100 GMT 16 Mar 80 OW]

AGRICULTURAL MECHANIZATION MEETING--A Xizang regional discussion meeting on agricultural mechanization and zoning was held recently in Lhasa. The meeting discussed and formulated a draft plan on the mechanization and zoning of farming and animal husbandry in the autonomous region. [Lhasa Xizang Regional Service in Mandarin 1100 GMT 28 Mar 80 OW]

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YUNNAN

BRIEFS

KUNMING AFFORESTATION RALLY--Some 1,000 people recently took part in the afforestation mobilization rally in Kunming. (Zhu Zuoqing), Standing Committee member of the Kunming Municipal CCP Committee and vice chairman of the municipal revolutionary committee, presided over the rally. Zhang Yun, Standing Committee member of the Yunnan Provincial CCP Committee and vice provincial governor, and (He Do), secretary of the Kunming Municipal CCP Committee and vice chairman of the municipal revolutionary committee, spoke. He urged the leading comrades, with the exception of the old and weak, to take the lead in afforestation. [Kunming Yunnan Provincial Service in Mandarin 1330 GMT 11 Mar 80 HK]

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BRIEFS

AFFORESTATION DRIVE--People in Zhejiang Province are enthusiastic about the afforestation drive during the spring season. As of early March, some 600,000 mu of large tracts of land have been planted with trees, 1 million trees planted around houses and villages and by roadsides and waters and 3,000 mu of saplings bred. Some 1 million people are currently working on barren mountains and in afforestation sites in various parts of the country on a daily basis. The people are satisfied with the government policy of "he who plants the tree has the right to own it" and are more eager to plant trees. [Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 11 Mar 80 OW]

SPRING FARMING SUPPLIES--Agricultural means of production supply departments at all levels in Zhejiang Province are going all out to support spring farming. As of the end of February, supplies of agricultural means of production for spring farming amounted to a total of more than 60 million yuan, an increase of 6.9 percent over the same period last year. The supplies included more than 240,000 tons of chemical fertilizers and more than 600 tons of agricultural plastic sheeting, showing an increase of 10 percent and 11 percent respectively over the same period last year. [Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 20 Mar 80 OW]

LAND RECLAMATION ENTERPRISES--In 1979, 72 enterprises under Zhejiang's Department of Land Reclamation and State Farms reaped an all-round bumper harvest in agriculture, animal husbandry, industry and fishery, making a profit of more than 580,000 yuan. The enterprises' total grain output in 1978 and 1979 increased by an average of 35 percent per year while their output of oil-bearing crops rose 80 percent, tea 8 percent, tangerines 90 percent and sugarcane 23 percent. Last year, the average annual income of the staff members and workers of the enterprises was 624 yuan, an increase of 18 percent over 1978. [Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 10 Mar 80 OW]

FISH RAISING--More than 300 million fresh-water fish fries are being raised in all parts of Zhejiang Province, 10 percent more than last year. Some 2.77 million mu of ponds are being used in Zhejiang for raising fresh-water fish. Last year's output reached 1.27 million dan, an increase of nearly 10 percent over 1978. In Wuxing and Deqing counties, some 6.3 million cubic meters of earthworks were completed in last winter to build 15,000 mu of fish ponds. [Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 15 Mar 80 OW]

AGROTECHNICAL POPULARIZATION--The more than 380 district agrotechnical popularization stations and the more than 3,000 agrotechnical cadres in Zhejiang Province are actively training agrotechnicians at the forefront of production in order to contribute to winning a bumper harvest in 1980. Since the beginning of spring, the stations have offered agrotechnical training classes at district and commune levels. According to incomplete statistics, more than 800,000 persons throughout the province were trained as leaders of communes and production brigades and teams or as agrotechnicians. [OW231007 Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 22 Mar 80 OW]

ANIMAL PRODUCTS--With the rapid development of animal husbandry, the situation in the procurement of animal products in Zhejiang Province has been gratifying. Total procurement during the first 2 months of 1980 was 15.28 million yuan, not only an increase of 37 percent over the corresponding 1979 period but also an all-time high. Besides meeting the needs of domestic markets, most of the animal products are the country's traditional export goods. These goods include rabbit hair, young yellow sheepskin, hog bristles and fur garments. [OW231007 Hangzhou Zhejiang Provincial Service in Mandarin 1100 GMT 22 Mar 80 OW]

PEOPLE'S DIETS IMPROVE--Hangzhou, 20 Mar--People in coastal Zhejiang Province ate 22 percent more pork and 81 percent more eggs in the first 2 months this year than in the same period last year. Pork and egg supply is now unrationed in this province. Exports and supplies of eggs and pork to Beijing, Shanghai, Tianjin and other provinces have also greatly increased. The province purchased 2,545,000 pigs and 2,715 tons of eggs from communes and farms in January and February. The figures are 25 and 70 percent bigger respectively than in the same period last year. [Text] [Beijing XINHUA in English 0821 GMT 20 Mar 80 OW]

ZHEJIANG WEATHER CONDITIONS--According to the meteorological bureau, the long spell of rainy weather in Zhejiang has come to an end. There will be clear weather with occasional rain periods and the temperature will gradually rise. This weather is generally favorable to crops. However, attention must be paid to field management to insure their sturdy growth. [Hangzhou Zhejiang Provincial Service in Mandarin 0400 GMT 30 Mar 80 OW]

FRESH WATER FISHERY--Hangzhou, 23 Mar--Zhejiang Province is breeding 300 million fresh water fries in 2.16 million mu of fresh water surface, or 80 percent of the province's total fresh water areas suitable for fresh water fishery. [Beijing XINHUA Domestic Service in Chinese 0204 GMT 23 Mar 80 OW]

AGRICULTURAL PRODUCTION--Jiaxing, Zhejiang, earned 198.22 million yuan from agricultural production in 1979, or 22.35 percent over 1978. After retaining 14.18 percent for public fund, the per-capita income for the county's 520,000 rural population reached 231.36 yuan, the highest in the province. Last year the county's total grain output increased by 94.5 million jin, or 9 percent over 1978, and the county also planted 6,500 mu of mulberry trees, expanded its rapeseed acreage by 10,000 mu and increased the number of pigs by 308,000 head. Income from the diversified economy reached 36.89 million yuan, 39.40 percent over 1978. Last year the county's population growth rate dropped to 0.48 percent, and the county sold 464 million jin of grain and 430,000 head of pigs to the state. [Hangzhou Zhejiang Provincial Service in Mandarin 0400 GMT 30 Mar 80 OW]

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